MINING & PETROLEUM STANDARD

AND

American Gas-Light Journal.

Publishing Office, Tribune Buildings, No. 1 Spruce street, corner of Nassau.

VOL. VII.—No. 2[illegible]—WHOLE No. 134. NEW YORK, MONDAY, JULY 17, 1865. $3 PER ANNUM—IN ADVANCE

PETROLEUM.

PETROLEUM—WHAT IT IS—HOW IT IS REFINED.

An exchange paper furnishes the following interesting facts about "coal oil:"—While so many are excited over the hopes of a sudden fortune from petroleum discoveries, it is of some interest to learn how the crude product of the wells is prepared for use, and the purposes in which the different substances into which it is separated are applied. Petroleum, as it is raised from the rocky cavities in which it is found, is a dark and dusky liquid, disagreeable to the eye, and offensive to smell and touch. But, fortunately, a simple process of refining gives us from this foul substance a beautiful and transparent illuminating oil; a perfect substitute for spirits of turpentine; an excellent lubricating substance, materials for the manufacture of gas, and of the most beautiful dyes. It is known that petroleum is composed of two elements—hydrogen and carbon. These two elements combine together chemically to form a large number of chemical compounds, which are mechanically mixed together to constitute petroleum. These hydro-carbons have one property: they are all combustible. But their other properties vary very widely; some are gases, others are liquids, and one, at least, is a solid almost as hard as lead. As the solids, and to some extent the gases, are soluble in the liquids, the whole mass is liquid. The volatility of the several hydro-carbons which constitute petroleum is the first property which is considered in the effort to separate them. An oil can be obtained which will boil at 90 degrees; another which will boil at 91 degrees; and another at 92 degrees. Even these are found, however, to be not single chemical compounds, but several hydro-carbons mechanically mingled. Petroleum is distilled in iron boilers, usually holding about fifty barrels each. They are heated by a coal furnace, and the products of distillation are condensed in the usual way by means of worms immersed in cold water. As the oil flows from the condenser, it is divided into three portions for different uses. The lightest, that comes over first, is called gasolene. This cannot be used in lamps with safety, as it rises in vapor so freely that it mixes with the atmospheric air to form an explosive compound. It is employed to some extent for making an illuminating gas by mixing its vapors with air. Its specific gravity ranges from 80 to 90 degrees of Beaumé's scale. The next that comes over, ranging from 60 to 80 degrees, is separated and sold under the name of benzine. This is used in mixing paints and varnishes, and for purposes generally for which camphene was formerly employed. The last of the distillation, constituting the principal portion of the petroleum, is illuminating oil. This ranges in density from 35 degrees to 60 degrees. As the stream of oil flows out from the lower end of the condenser, its color is a light, delicate blue. The tar is sold for making illuminating gas, and considerable quantities are sent to Europe to be employed in manufacturing dyes. The purification of the distilled burning oil, by which it is in a great measure deprived of its offensive odor, is effected by agitating it with sulphuric acid, neutralizing the acid with soda, and finally thoroughly washing it by agitating with water. Nearly all the hydro-carbons of petroleum are neutral, neither acid nor alkaline; but few have alkaline or basic properties, and it is from these that the crude oil derives its offensive odor. Sulphuric acid enters into combination with these basic oils, forming salts which can be completely removed by washing. The acid also oxydizes a portion of the heavier hydro-carbons, converting them into asphaltum, which settles out of the oil with the water. The washing is effected in the same vessels that are employed in treating the oil with sulphuric acid. The oil is pumped or drawn into the vessels, the sulphuric acid is added, the fans are set in motion till the liquids are thoroughly mixed, and then the oil is allowed to settle to the bottom of the cask. The bottom is of a conical form, with a hole in the centre, closed by a stop-cock. The oil and its compounds settle in a dark mass at the bottom, and then the stop-cock is opened, and this sediment is drawn off, the workmen carefully watching the flow so as to stop it before any of the clear oil escapes. Next, soda is put into the cask, the agitators are driven awhile, the mass allowed to settle, and the sediment is drawn off. Finally, water is pumped in with the oil, and the agitating, settling, and drawing off process is repeated.

THE OIL SHARE CRISIS.

A crisis in the affairs of our oil companies is approaching. They are in a transition state. The wonderful success which some of them attained, the remarkable swiftness with which fortunes were made by the lucky, stimulated speculation to an extraordinary extent. Upon the foundation of petroleum were erected vast stock manufacturing machines. The adventurous, dazzled by truth, and still further led astray by exaggerated theories, rushed into the business of making shares and selling them to best advantage. The natural features of the ground from which the yield of oil was expected, were not properly inquired into. People did not stop to investigate the business prospects of the companies which they favored. They hoped to buy cheaply, to sell dearly, and become rich quickly. In the beginning everything was favorable, but too much speculation has effected the whole oil-producing occupation, and at the present time the petroleum interest is flattened out. Oil stocks are no longer scrambled for. Holders who cannot afford to wait are discouraged, and buyers are cautious. Over production ruins anything, although there never was an over production of oil, there was certainly a surplus of stocks in petroleum companies. Now, what is to be the result? Undoubtedly many of the moonshine corporations which have been started will have to fail. They will exhaust the means and patience of their stockholders. The latter will resolve to pay no more money, considering what they have already contributed as inevitably lost. Either a few men will get the management of them, or they will be sold out, and those who come in at the death will bag the game.

And yet, with all these disadvantages, petroleum *per se* will not suffer. It has become an object of worth to commerce, and the demand for it will be steady. If the number of producers decrease, the value of the productions increases. The companies organized for the production of oil, which have avoided the arts of the Stock Exchange; which have at all times paid attention to the development of their lands, and which have been managed with patient industry, will reap the benefit Their course was clear from the first. It was to attend to their own business, unmindful of the turmoil round them. They are now approaching the time when it will be demonstrated that this policy will pay. As the number of flimsy companies fades out as the chaff is riddled from the grain, the old-fashioned, honestly conducted companies will rise in estimation. They will find their reward in good prices for their oil, and enhanced value for their stocks. Happy they who have interests in such concerns, for they will undoubtedly receive the benefit of their patience and perseverance.—*Pitsburg Oil News and Mining Journal.*

IDLE AND ABANDONED WELLS ON OIL CREEK TO BE SEED-BAGGED.

The *Oil City Register* of June 8 contains the proceedings of two meetings, held at the Blood and Tarr farms, for the purpose of devising effective measures for the closing of all idle and abandoned wells. The advantages (says that paper) that will ensue to producers, if a general movement of this kind is made, will be very great. It is admitted, by a large majority of practical operators, that the decrease in the supply is occasioned, in most cases, by wells being left open without any seed-bag. The oil is below the water, and when a well has the tubing and seed-bag removed, the oil is forced by the weight of the water into other channels. One well, thus abandoned, will frequently interfere with or ruin half-a dozen others in its immediate vicinity. The gas, which is the only motive power for lifting the oil to the surface, escapes, and the lifting power is lost. The loss occasioned by the flooding of wells on Oil Creek will amount to millions of dollars. No well should be allowed to remain untubed, and the water should be cut off by the seed-bag.

The proceedings of the meetings alluded to, possess great importance to producers, and we trust the movement will be a general one throughout the whole oil region. The oil wells of Burmah have yielded a steady supply of 400,000 hogsheads of petroleum per annum, for, it is estimated, the last 400 years. We cannot see why the wells in Venango cannot be made as continuous. We are satisfied that if the present movement is carried out, the supply of oil will not only be steady and greater than it is at present, but the life of an oil well will assimilate to half a century. We have no space this week, nor do we hardly deem it necessary to give reasons why all the idle and abandoned wells should be plugged up. These reasons are sufficiently apparent to every one who has any knowledge of the business. We hope that all will cordially co operate with the originators of this movement. It is to the general interest of all to do so, and we trust that active measures will be taken for its adoption on every farm in the oil region.

OIL IN CALIFORNIA.

San Francisco, June 12.—The first oil well has been opened in Humboldt county. The flow is small.

This item appeared in the daily papers of yesterday. According to it the problem whether flowing wells could be opened in California is affirmatively solved.

The comment that "the flow is small," is of little significance, for a small strike may be soon followed by a big strike. Besides, it will pay to pump for oil in California. The oil is the essential substance, and its existence in quantity the material fact. Where found it will be gotten out. A trade in California surface oil already exists, and to this will soon be added a trade in California well oil; if the wells flow, so much the better; if they have to be pumped, the additional cost of production will be small—*U. S. R. R. and Mining Register.*

MINING.

THE NATION'S WEALTH IN GOLD & SILVER.

THE PRECIOUS METALS IN ANCIENT TIMES.

For the last three thousand years gold and silver have been the regulators of trade among nations and men. Six hundred years before the Christian era the mines of Egypt, Thracia, Thessaly, Armenia, Aquileja and Spain yielding sufficient to increase the prices of food. The mines of Carthagena afforded work to forty thousand men, and daily produced a quantity of gold equal to about four thousand dollars. Hannibal obtained three hundred pounds of silver per day from a mine situated near a place now called Guadal canal. The richest mines known to the ancients existed in Asturia. There were also considerable ones in Sardi nia. The quantity of gold and silver which Alexander the Great took from the Persians at the battle of Arbels, three hundred and thirty-one years before Christ, amounted to about two hundred and fifty millions of dollars; and at the period of his death the bushels of wheat, which cost but the value of fifteen of our cents three hundred years before, cost three ounces of silver. Such, it is alleged, was the difference in price caused by the influx of the precious metals. In the year 40, of our era, the bushel of wheat cost about one hundred and thirty of our cents, and all the gold and silver in circulation was estimated at sixteen hundred millions of dollars. After the invasion of the barbarians much of this treasure seems to have disappeared in some unaccountable manner—for in the year 400 the total quantity of the precious metals scarcely amounted to two hundred and fifty millions of dollars. The mines certainly produced much less, the art of working the metals was lost, and it was not until the year 1000 that the circulating medium began again to increase. In 1492, the period of the discovery of America, the whole capital in circulation throughout Christendom was valued at about one hundred and eighty millions of dollars. From 1492 to 1519 the influx of gold into Europe from the New World did not exceed two hundred and fifty thousand dollars per year—but the production of Mexico soon rose to twelve times as much. During the 17th century the annual production of Spanish America was fifteen millions of dollars, and it was not more than twenty-five millions at the beginning of the present century.

THE AMOUNT OF PRECIOUS METALS NOW IN EXISTENCE.

The amount of gold now in existence is estimated at four thousand eight hundred and sixty-two millions—of silver, five thousand seven hundred millions—making the total of precious metals now existing, ten thousand five hundred and sixty two millions of dollars, with an average annual product of gold throughout the world of over two hundred and seventy-one millions.

WHAT AMERICA HAS PRODUCED.

Of the latter, the gold fields and gold-bearing mountains of America produced in 1863 one hundred and forty-four millions. The amount of silver mined in the same time was sixty millions of dollars, of which America produced forty four millions. The following table is interesting in this connection, as showing the

QUANTITY OF GOLD PRODUCED BY THE SEVERAL GOLD PRODUCING COUNTRIES FOR 1846 AND 1863.

	1846.	1863.
California	———	$70,000,000
Other States of the Union	$1,300,000	30,000,000
British Columbia	———	6,000,000
Mexico	18,500,000	25,000,000
South America	13,000,000	13,000,000
Total for America	$32,800,000	$144,000,000
Russia	18,000,000	22,000,000
Other European countries	6,600,000	6,800,000
Asia and Africa	4,600,000	5,775,000
Australia	—	75,000,000
New Zealand & British colonies	—	12,000,000
Other countries	—	6,000,000
Total	$62,000,000	$271,575,000

The calculation for 1864 will show an immense increase in the amount of gold and silver produced from the auriferous and argentiferous area of the United States, in regard to which we shall have presently more to say. We will now proceed to define, as near as can be from the data at hand, the extent of this area in North America, showing the amount belonging to the United States, as compared with that occupied by Mexico, (including the area claimed by Maxamilian and that ceded to Napoleon,) and the amount at present owned by Great Britain and Russia.

THE GOLD BEARING AREA OF NORTH AMERICA.

The gold bearing area of North America embraces the two Cordilleras and the enclosed plateau. This area comprises, by latest calculations, two million five hundred thousand square miles, or over sixteen thousand millions of acres, distributed as follows:

Owned by the United States two and one-half fifths, or one-half—1,250,000 square miles.

Owned by Mexico (or Maxmilian and Napoleon) to the south, one and one-half fifths—750,000 square miles.

Owned by Great Britain and Russia, to the north, one-fifth—500,000 square miles.

RECAPITULATION.

	Square Miles.
United States	1,250,000
Mexico	750,000
Great Britain and Russia	500,000
Total	2,500,000

THE GOLD BEARING AREA OF THE UNITED STATES.

For convenience we will classify the gold bearing area of the United States—one million five hundred thousand square miles—in tiers of States and Territories, thus:

First Tier—California, Oregon and Washington, on the sea front of the Pacific, with a coast line of one thousand five hundered miles.

Second Tier—East of the above, Nevada and Idaho

Third Tier—East of these, Arizona, Utah and Montana.

Fourth Tier—And east of these again, New Mexico, Colorado, Nebraska and Dacotah.

Arizona, Utah and Montana lies longitudinally along the middle of the great Plateau. The other tiers lie upon the two Cordilleras and their outside flanks.

The first tier—California, Oregon and Washington—bestrides the whole length of the Cordillera of the Sierra Nevada, including its slope to the Pacific sea. This tier has its outlets by the Columbia river into the Pacific, and the Colorado river into the Gulf of California. The city of San Francisco is the focal point of business activity for this tier.

The second and third tiers—Nevada, Idaho, Utah and Montana—cover the area of the Plateau, lie on a comparatively dead level, inside the two Cordilleras, having no important slope in either direction.

The fourth tier—New Mexico, Colorado, Nebraska and Dacotah—bestrides the great Cordillera of the Sierra Madre and its eastern slope to the Great Plains, whence the rivers descend to the Mississippi. This whole eastern front connects uninterruptedly, across the basin of the Mississippi, to the city of New York, which presents itself as the convenient focus to which all lines of transit from this direction naturally converge.

AURIFEROUS AREA CONVERGING TO THE PACIFIC OR SAN FRANCISCO.

The average energies of production on the western side of the continent have, we say, their converging point at San Francisco. This region may be estimated to contain an auriferous area of about five hundred and and fifty thousand square miles, or reduced to acres, distributed as follows:

FIRST TIER.

California	120,948,480
Oregon	60,975,380
Washington	38,401,128
Total	221,324,968

SECOND TIER.

Nevada	54,690,560
Idaho	62,525,528
Total	117,216,088
First tier added	221,324,968
Grand total	338,541,056

The population of this division may be estimated at one million and a quarter. Nevada and Idaho must be regarded as immediately identified with and dependent upon the Pacific front, and as ancillary to San Francisco. The first lodgment in this wild ness was made in 1848, and it has had its origin and creation within the space of fifteen years.

FORMS OF TRANSPORTATION WEST.

The forms of transportation within this area at present consists of ordinary roads, navigable rivers and the sea.

PRECIOUS METALS PRODUCED, ETC., WITHIN FIFTEEN YEARS.

The aggregate amount of precious metals produced within the area above mentioned during the past fifteen years, is carefully estimated at one thousand seven hundred and fifty millions; of which one thousand two hundred and fifty millions were exported to distant countries, domestic and foreign, and five hundred millions detained for home employment, the laying out of cities and towns, the construction of public buildings, and public improvements generally. This estimate, of course, includes the amount of precious metals carried off in the hands of passengers, and through other channels not covered in the official reports of the amount exported.

In this estimate, it will be remarked that we have confined our calculation to the amount produced on the Pacific coast and the region sloping toward it, and not including the amount produced by the auriferous mountains to the eastward, the Sierra Madre, a portion of the great plateau, and all the territory sloping toward the Mississippi basin. Nor have we embraced the amount produced in the more Eastern or Southern States; the State of Georgia, for instance, where the Dahlonega mines have been successfully worked.

AURIFEROUS AREA CONVERGING TO THE ATLANTIC.

The third and fourth tiers of these longitudinal gold bearing regions, viz: Arizona, Utah and Montana, and New Mexico, Colorado, Nebraska and Dacotah, have a superficial expanse of something near one million square miles, or in acres, at a rough estimate, distributed as follows:

THIRD TIER.

Arizona	78,550,680
Utah	68,396,560
Montana	83,368,704
Total	230,316,704

FOURTH TIER.

New Mexico	77,008,640
Colorado	67,728,520
Nebraska	49,233,920
Dacotah	62,526,528
Total	257,492,608
Third tier added	230,316,944
Grand total	487,709,552

This vast gold producing area has its focus of convergence at New York city. All the commerce of New Mexico, Colorado, Utah, Montana, Nebraska and Dacotah, and the bulk of that of Arizona, radiates to and from the city of New York.

FORMS OF TRANSPORTATION EAST.

The forms of transportation within this region traverse the whole area of the United States, and of all the States. They embrace the ordinary roads, the admirable natural roads of the Great Plains, navigable rivers and the entire system of railroads in North America—existing and prospective—passing and repassing through and through a territory occupied by thirty millions of people.

AGGREGATE PRODUCTION OF PRECIOUS METALS IN THE ABOVE REGION WITHIN FIVE YEARS.

The aggregate amount of precious metals produced within the area of the third and fourth tiers has been one hundred and twenty-five millions dollars. This has been produced within the space of five years—so recent is the date of their discovery and development by the pioneer people, who have had but rude and imperfect means of working the mines, and are, even as yet, without the assistance of proper machinery to develope the treasures whose locality they have discovered.

TOTAL PRODUCTION FOR ALL THE TIERS.

The following will exhibit the aggregate amount of precious metals mined in the above gold bearing tiers since the first discovery in 1848 and '49:

First and second tier.....	$1,750,000,000
Third and fourth.....	125,000,000
Total.....	$1,875,000,000

And it is safe to estimate that within the next two years the aggregate production of the precious metals within the territory above named will reach the round sum of two thousand millions of dollars. This will assuredly be the case now the war has ceased, and half a million hardy and adventurous soldiers, accustomed to the rigors and deprivations of frontier life, are ready to swell the stream of emigration already pouring into the newly discovered gold and silver regions.

MAGNITUDE OF THE AURIFEROUS REGIONS OF THE THIRD AND FOURTH TIERS.

The magnitude and auriferous character of the mountains embraced in the third and fourth or eastern tiers surpasses that of the extreme west or Pacific side. The few years of imperfect development demonstrate this fact. This region presents itself in immediate contact with the tide of American people and foreign emigrants advancing upon its whole front, pressed onward by the whole weight of the Eastern population and the strength of their energies. Such are the extent and natural resources of this eastern front, that they are capable of infinite expansion, limited only by the demand which may exist and the industry and capital which may elect this wonderful and prolific field for practical and permanent investment.

This source of the production of the precious metals, lying within and associated with the prevailing organized system of national commerce and industry, is immediately available to meet the present extraordinary demands upon the national credit, and those consequent upon protracted war and prospective expansion of empire. It must be remembered that this view pertains exclusively to the eastern slope of our auriferous mountain regions, described as having its natural concentric point at and dependent upon the city of New York.

SUB DIVISIONS OF THE GOLD BEARING AREA OF NORTH AMERICA AMONG THE COMMERCIAL POWERS.

The following table will present at a glance a summary of the above, and show the sub-divisions of the gold bearing area of North America among the commercial powers:

	Area square miles.	Population.
German America (Maximilian)	338,547	7,529,516
French America (Napoleon III)	405,273	953,616
American America (U. S.)	1,250,000	1,250,000
British America (Queen Victoria)	2,00,000	61,000
Russian America (Alexander II)	3000,000	27,000
Total.....	2,513,840	9,821,332

The following table will show the

TOTAL AND AVERAGE ANNUAL PRODUCTIONS OF THE GOLD BEARING AREA OF NORTH AMERICA.

	Average annual.	Total.
Mexico (346 years).....	$19,250,000	$6,640,204,889
U. S. and Territories.....	100,000,000	1,875,000,000
British America.....	2,500,000	
Russian America.....	(Undeveloped.)	

From the above exhibits may be obtained a comprehensive view of the general attention given by commercial nations to the development of the precious metals on this continent, as the source from which the bulk of supply is to be derived in the future. This has already resulted in an attempt to partition out largely among the European Powers all the gold bearing area of North America not positively embraced within the sovereignty of the Union. Although the greatness of area and the advantage of position held by the United States give to her the undoubted supremacy should this productive system become permanent, we are urged to increased energy in the development of our own area, augmented by the rivalries incidental to the approximation of so many foreign nations. The rapid growth in volume of the commerce of the Pacific ocean is perpetually exacting a corresponding increase in the specie basis of the whole field of commerce. The area which developes itself within the domestic control of the American people, to meet this indefinite expansion, is amply munificent to flatter their largest ambition and to meet the horizon to which their stimulative energies may urge them on. The universal popularity among the American people of non-interference in the domestic affairs of the New World warns us to regard with increased vigilance the political maxims laid down by Monroe, and re-asserted by every sound statesman of America, North and South.—*N. Y. Herald.*

THE ATLANTIC CABLE.

WHAT THE CABLE IS MADE OF, AND HOW AND WHEN IT WILL BE LAID.

The present Atlantic cable is just twenty-three hundred nautical miles, or in rough numbers about twenty-six hundred miles long. The central conductor is composed of seven fine copper wires, twisted into one complete strand, which is insulated with Chatterton's patent compound. Outside this comes four distinct layers of gutta-percha, each also insulated with the same material that encloses the conductor. Outside the gutta percha again are wound eleven stout iron wires, each of which, before being twisted on, is itself carefully wound round with strands of hemp, soaked with tar. Thus, then, there are no less than twenty-five thousand miles of copper wire in the conductor, about thirty-five thousand miles of iron wire in the outside covering, and upwards of four hundred thousand miles of strands of hemp— more than enough in all to go twenty-four times round the world. The cable has been made on an average at the rate of seventeen miles per day complete, and in some days outside covering of hemp and iron has been overlaid at the rate of one hundred and seventy-three miles a day, though not a fathom or a foot has been manufactured without every part being kept under constant test for "conductivity" and insulation, and to this hour it is as regularly tested as it was a year ago, when the first mile was twisted. In strength the cable is equal to bearing a strain of seven and three-quarter tons, while its specific gravity is so low that it can with safety be depended on to support eleven miles of its own length water. It has been made mile by mile, joined up in long lengths of seven and eight hundred miles, and shipped on board the Great Eastern into three enormous tanks.

The first will hold a coil of six hundred and thirty miles of cable, the second one of eight hundred and forty, and the third one of eight hundred and thirty. Five hundred miles have still to be stowed away on board, and it will take a fortnight to complete this work, though the last mile of the coil will come through the machines of the telegraph works at three o'clock on Monday next. All three tanks are kept filled with water, and when each is stored with cable as well, the ends of the wire will be joined up, and a constant system of signals kept through every part from the moment the expedition starts till the cable is laid. The mere cable, however, is but an item in the mass of heavy weights the Great Eastern will have to carry on this occasion. Her draught of water will be rather over than under thirty feet, and all told, her weights, when starting from Valentia, will come near the stupendous mass of eighteen thousand tons. They are all, however, stowed high, and so, according to present arrangements, it is believed that the Great Eastern will start in the very early part of July, and certainly, if possible, not later than the 10th. With her will also sail her Majesty's ship. Terrible and another paddle wheel steam frigate of great power not yet chosen, but which, like the Terrible, will give towing aid to the Great Eastern in case of mishaps to her machinery, either screw or paddle. Every care has been taken to get these engines into the highest state of good working order; but it cannot be denied that the very possibility of their breaking down is looked upon with something like anxiety. They will certainly not be overtasked, as it is intended, if possible, not to let the vessel go beyond a speed of six knots, a minimum of velocity which it will be difficult to keep to if stearage way is wanted quickly, and which will, we think, be found absolutely impossible to retain in a seaway. On this occasion, however, the middle of July is chosen as being thought even more favorable in point of weather than the middle of June, when the last Agamemnon cruise was commenced Captain Anderson, we believe, is in favor of starting towards the early part of July, and his long experience in command of the China has very properly induced the directors to give every weight to his opinion. In addition to Captain Anderson, all the officers connected with the ship, with the exception of the chief engineer, have been chosen from the Cunard service. With ordinary fair weather, and steaming at the rate of six knots, it is expected that the voyage from Valentia to the Bay of Hearts' Content in Newfoundland, will occupy from twelve to fourteen days, during every hour of which regular communication will be kept up with England.—*London Times.*

THE SEISMOMETER.

Lieut. Col. Ramstedt, of Helsingfors, England, has constructed a new form of seismometer, for which he proposes the descriptive name—Telegraph of the accidental movements of the earth. Considering that these movements are much more frequent and continuous than is commonly supposed, and that the greatest number escape notice through want of proper observation, he suggests that his instrument should be placed in the principal magnetic observatories of Europe, and other parts of the world, where, being self-recording, it would note the occurrence of every shock or movement, however slight. If, as Lieut. Col. Ramstedt remarks, there are tremblings of the earth nearly every day, it seems desirable that some notice of them should be taken; and, perhaps, established observatories, with their staff of assistants, would be the best places for the investigation. As all the records would have to be sent to one central office, the localities in which shocks and tremblings are most frequent would be discovered; and, in course of time, some conclusions might be drawn as to whether the movements were periodical, or form part of some intermittent system of vibrations by which the earth is affected. The seismometer is so constructed as to indicate, by lines traced with a pencil, the time at which a shock takes place, and its force and direction.

A London daily paper notices "Mr. Russey, No. 482 New Oxford street, the invantor of buttons for trowsers that never come off.

GAS-LIGHT COMPANIES IN THE UNITED STATE

Compiled from official sources expressly for the AMERICAN GAS-LIGHT JOURNAL.

When Chartered.	Town.	State.	Chartered Capital.
1857	Adrian	Mich.	50,000
1856	Akron	O.	20 000
1845	Albany	N. Y.	25 . 0
1858	Albion	N. Y.	30,000
1851	Alexandria	Va.	105,580
1852	Alleghany	Pa.	200,000
1853	Allentown	Pa.	60,000
1857	Alton	Ill.	75,000
1859	Altoona	Pa.	40,000
1859	Amesbury and Salisbury	Mass.	30,000
1858	Annapolis	Md.	100,000
1856	Ann Arbor	Mich.	28,000
1859	Astoria	N. Y.	20,000
1855	Atlanta	Ga.	50,000
1857	Attleboro'	Mass.	6,000
1850	Auburn	N. Y.	80,000
1851	Augusta	Ga.	80,000
1838	Augusta and Hallowell	Me.	84,700
1860	Aurora	Ind.	10,000
1817	Baltimore	Md.	550,000
1852	Bangor	Me.	120,000
1855	Batavia	N. Y.	32,000
1858	Bath	Me.	65 000
1859	Bath	N. Y.	15,000
1861	Battle Creek	Mich.	15,000
1858	Belfast	Me.	14,000
1856	Bellefont	Pa.	20,000
	Beloit	Wis.	30,000
1854	Bethlehem	Pa.	50,000
1859	Beverly	Mass.	40,000
1853	Binghampton	N. Y.	50,000
1859	Birmingham	Pa.	40,000
1855	Bloomington	Ill.	40,000
1853	Bordentown	N. J.	50,000
1822	Boston	Mass.	1,000,000
1859	Brattleboro'	Vt.	21,000
1851	Bridgeport	Ct.	90,000
1857	Bridgeton	N. J.	50,000
1856	Bristol	Pa.	30,000
1855	Bristol	R. I.	35,000
1859	Brockport	N. Y.	25,000
1858	Brookline	Mass.	77,000
1825	Brooklyn	N. Y.	2,000,000
	Brownsville	Pa.	
1848	Buffalo	N. Y.	600,000
1852	Burlington	N. J.	100 000
1858	Burlington	Vt.	75,000
1859	Burlington	Iowa.	65,000
1861	Calias	Me.	90,000
1852	Cambridge	Mass.	300,000
1852	Camden	N. J.	300,000
1858	Canandaigua	N. Y.	50,000
1856	Canton	O.	12,0 0
1858	Cape Island	N. J.	80,000
1860	Carbondale	Pa.	16,000
1855	Carlisle	Pa.	30,000
1856	Catasaqua	Pa.	75,000
1858	Catskill	N. Y.	
1857	Chambersburg	Pa.	30,000
1846	Charleston	S. C.	723,800
1851	Charlestown	Mass.	200,000
1859	Charlotte	N. C.	14,000
1859	Charlotteville	Vt.	15,000
1851	Chelsea	Mass.	100 000
1856	Chester	Pa.	35,000
1849	Chicago	Ill.	1,300,000
1857	Chicoyee	Mass.	50,000
1851	Chillicothe	O.	40,000
1841	Cincinnati	O.	1,600,000
1859	Citizens', Brooklyn	N. Y.	1,000,000
1860	Citizens', Reading	Mass.	90,000
	Clarksville	Tenn.	100,000
1860	Claremont	N. H.	20 000
1846	Cleveland	O.	200,000
1858	Clinton	Mass.	30,000
1859	Clyde	N. Y.	10,000
1854	Cohoes	N. Y.	50,000
1860	Cold Spring	N. Y.	30,000
1860	Cold Water	Mich.	25,000
1852	Columbia	Pa.	37,500
1852	Columbia	. C.	44,000
1857	Columbia	Cal.	50,000
1853	Columbus	Ga.	54,000
1850	Columbus	O.	100,000
1858	Columbus	N. H.	50 000
1858	Concord	Ky.	100 000
1854	Covington and Newport	Md.	60,000
	Cumberland		
1857	Danbury	Ct.	50,000
1856	Danville	Pa.	30,000
1855	Davenport	Iowa.	56,000
1848	Dayton	O.	50,000
1858	Dedham	Mass.	40 000
1860	Deleware	O.	30,000
1849	Detroit	Mich.	500,000
1860	Dobbs' Ferry	N. Y.	25,000
1854	Dorchester	Mass.	150,000
1859	Dover	Del.	12,000
	Dover	N. H.	
1857	Doylestown	Pa.	30,000
1854	Dubuque	Iowa.	50,000
1853	East Boston	Mass.	133,000
1858	East Greenwich	R. I.	11,200
1861	East Hampton	Mass.	10,000
1861	East New York	N. Y.	50,000
1857	Easton	Md.	9,000
1850	Easton	Pa.	125,000
1856	Eastport	Me.	50,000
1855	Elizabeth	N J.	100,000
	Ellicott's Mills	Md.	10,000
1852	Elmira	N Y.	50,000
1852	Erie	Pa.	68 000
1853	Evansville	Ind.	60,000
	Exeter	N. H.	60,000
	Fair Haven	Ct.	20,000
1847	Fall River	Mass.	26,000
1859	Fayetteville	N. C.	25,000
	Fifth Ward (Milwaukee)	Wis	50,000
1857	Fishkill	N Y.	10,000
1853	Fitchburg	Mass.	100,000
1859	Flemington	N J.	20,000
1855	Flushing	N. Y.	29,000
1858	Folsom	al.	
	Fort Wayne	Ind.	40,000
1851	Frankfort	Ky.	50,000
1851	Frederick City	Md.	36,000
1854	Fredericksburg	Va.	72,500
1858	Fredonia (Natural Gas)	N. Y.	10,000
1854	Freeport	Ill.	30,000
1859	Fremont	O	25 000
1854	Fulton	N Y	12 000
1855	Galena	Ill	70 000
1859	Galion	O	25 000
18 8	Galveston	Texas	150 000
1854	Gardiner	Me	100 000
1853	Geneva	N Y	75 000
1851	Germantown	Pa	Merged
1859	Gettysburg	Pa	20 000
1854	Glenn's Falls	N Y	85 000
1854	Gloucester	Mass	40 000
1857	Gloversville	N Y	15 000
1854	Grand Rapids	Mich	50 000
1855	Great Barrington	Mass	5 000
1849	Great Falls	N H	50 000
1850	Greenfield	Mass	20 000
1853	Greenpoint	N Y	100 000
1859	Greensboro'	N C	12 000
1853	Greensburg	Pa	30 000
1854	Hagerstown	Md	15 000
	Hamilton	O	15 000
1859	Hannibal	Mo	100 000
1857	Harlem	N Y	350 000
1855	Harrisburg	Pa	100 000
1849	Hartford	Ct	200 000
	Hastings	N Y	
1853	Haverhill	Mass	50 000
1859	Haverstraw	N Y	20 000
1861	Haverville	Mass	15 000
1859	Hempstead	N Y	16 000
1862	Hoboken	N J	100 000
1856	Hollidaysburg	Pa	30 000
1861	Hollyoke	Mass	20 000
1861	Homer & Cortlandt	N Y	40 000
1854	Honesdale	Pa	30 000
1860	Hornellsville	N Y	12 000
1853	Hudson	N Y	50 000
	Hunter's Point	N Y	
1857	Huntington	Pa	18 000
1856	Huntsville	Ala	7 325
	Indianapolis	Ind	150 000
1857	Iowa City	Iowa	40 000
1852	Ithaca	N Y	75 000
1857	Jackson	Mich	25 000
	Jackson	Miss	80 000
	Jackson	Cal	50 000
	Jacksonville	Flor	35 000
	Jacksonville	Ind	50 000
1858	Jacksonville	Mo	25 000
1856	Jamaica	N Y	20 000
1853	Jamaica Plain	Mass	75 000
	Jamestown	N Y	25 000
1856	Janesville	Wis	50 000
	Jeffersonville	Md	30 000
1853	Jersey City	N J	300 000
1858	Jersey Shore	Pa	15 000
1856	Johnstown	Pa	80 000
1857	Joliet	Ill	300 000
1858	Kalamazoo	Mich	30 000
1860	Keene	N Y	60 000
1855	Keokok	Iowa	100 000
1855	Kingston	Pa	50 000
1859	Kittanning	Pa	20 000
1854	Knoxville	Tenn	68 000
1860	Laconia	N H	20 000
1859	La Crosse City	Wis	100 000
1854	Lafayette	Ind	60 000
1856	Lampertville	N J	30 000
1849	Lancaster	Pa	100 000
1856	Lancaster	O	25 000
1855	Lansinburg	N Y	25 000
1849	Lawrence	Mass	200 000
1859	Leavanworth	Kansas	200 000
1856	Lebanon	Pa	26 000
1861	Le Roy	N Y	25 000
1858	Lewisburg	Pa	20 000
1852	Lewiston	Me	100 000
1856	Lewistown	Pa	30 000
1858	Lexington	Ky	100 000
1838	Little Falls	N Y	112 000
1861	Little Rock	Ark	20 000
1858	Lockhaven	Pa	28 000
	Lockport	N Y	100 000
	Logansport	Ind	40 000
1838	Louisville	Ky	600 000
1849	Lowell	Mass	200 000
1852	Lynchburg	Va	70 000
1852	Lynn	Mass	55 000
1859	Lyons	N Y	30 000
1851	Macon	Ga	75 000
1851	Madison	Ind	160 000
1855	Madison	Wis	100 000
1854	Malden & Melrose	Mass	50 000
1852	Manayunk	Pa	40 000
1852	Manchester	N H	100 000
1830	Manhattan (N. Y. City)	N Y	4,000 000
	Mansfield	O	25 000
1854	Marblehead	Mass	40 000
	Marlboro'	Mass	20 000
	Mauch Chunk	Pa	50 000
1857	Marietta	O	50 000
1860	Marion	O	12 000
1858	Marysville	Cal	50 000
1847	Massilon	O	20 000
1855	Meadville	Pa	80 000
	Medina	N Y	2 000
1852	Memphis	Tenn	300 000
	Meriden	Ct	20 000
1859	Metropolitan (N. Y. City)	N Y	1,000 000
1859	Middleboro'	Mass	15 000
1858	Middletown	Ct	50 000
	Middletown	N Y	
	Milford	Mass	20 000
	Milledgeville	Ga	100 000
	Milton	Pa	10 000
1847	Milwaukee	Wis	400 000
1852	Mobile	Ala	200 000
1846	Monroe	Mich	40 000
1852	Montgomery	Ala	100 000
1856	Montpelier	Vt	30 000
1859	Morrisania	N Y	30 000
1859	Morristown	N J	13 000
1854	Mount Holly	N J	16 650
	Mount Vernon	O	50 000
1857	Muscatine	Iowa	50 000
1854	Nantucket	Mass	50 000

GAS-LIGHT COMPANIES IN THE UNITED STATES,

Compiled from officinl sources for the AMERICAN GNAS LIGHT JOURNAL.

When Chartered.	Town.	State.	Chartered Capital.
1852	Nashua	N H	45 000
1850	Nashville	Tenn	00 000
1858	Natchez	Miss	46 000
	Nevada City	Cal	
1852	New Albany	Ind	200 000
1846	Newark	N J	362 000
1856	Newark	O	3 000
1852	New Bedford	Mass	130 000
1859	Newbern	N C	22 000
	New Britain	Ct	30 000
1851	New Brunswick	N J	100 000
1852	Newburg	N Y	67 000
18 2	Newburyport	Mass	150 000
1857	Newcastle	el	32 300
1847	New Haven	Ct	250 000
1853	New London	Ct	70 000
1845	New Orleans	La	1,500 000
1853	Newport	R I	130 000
1854	Newton & Watertown	Mass	92 000
	Ne on	N J	30 0 0
	Newton	P	20 000
	Newtown	N Y	
1823	New York	N Y	1,000 000
1859	Niagara Falls	N Y	15 000
	Norfolk	Va	60 000
1853	Norristown	Pa	41 700
1855	North Attleboro	Mass	50 000
	Northern Liberties	Pa	00 000
	North Adams	Mass	425 000
1856	Northampton	Mass	35 000
1859	North Bridgewater	Mass	16 000
1856	Norwalk	Ct	30 000
1859	N walk	O	30 000
1854	Norwich	Ct	75 000
1861	Norwich	N Y	12 000
1859	Nyack	N Y	20 000
1860	Oberlin	O	10 000
1855	Ogdensburg	N Y	75 000
1859	O ange	N J	65 000
1852	Oswego	N Y	81 200
1855	Ottawa	I l	45 000
1856	Owego	N Y	4 000
1860	Owensboro	Ky	50 000
1856	Paducah	Ky	75 000
1861	Painsville	O	40 000
1856	Palmyra	N Y	12 000
1847	Paterson	N J	125 000
1850	Pawtucket	R I	75 000
1855	Peek-kill	N Y	31 000
1860	Penn Yan	N Y	12 000
1859	Peoples' Chicago	Ill	500 000
1855	Peoria	Ill	100 000
1852	Petersburg	Va	120 0 0
1841	Philadelphia	Pa	3,000 000
1855	Piqua	O	50 000
1835	Pittsburg	Pa	300 000
1854	Pittsfield	Mass	50 000
1853	Placerville	Cal	30 000
1860	Plainfield	N J	25 000
1859	Plattsburg	N Y	16 000
1858	Plymouth	Mass	40 0 0
1760	Port Chester	N Y	50 000
1860	Port Jevis	N Y	20 000
1849	Portland	Me	300 000
1859	Portland	Oreg	50 000
1859	Port Lavacca	Texas	50 000
1851	Portsmouth	N H	70 000
1855	Portsmouth	O	50 000
1855	Portmouth	Va	100 000
1856	Pottstown	Pa	20 000
1850	Pottsville	Pa	110 000
1850	Poughkeepsie	N Y	84 000
1848	Providence	R I	1.000 000
1858	Quincy	Ill	300 000
1855	Quincy	Mass	00 000
1857	Racine	Wis	
1858	Rahway	N J	43 000
1848	Raleigh	N C	50 000
1851	Reading	Pa	25 000
1859	Richmond	Va	100 000
	Richmond	Mass	341 975
1859	Richmond County	N Y	40 000
1852	Ripley	O	
1857	Rochester	N Y	25 000
1854	Rockford	Ill	200 000
1854	Rock Is and	Ill	40 000
1852	Rockland	M	100 000
1854	Rome	N Y	50 000
1854	Rondout and Kingston	N Y	35 000
1859	Roxbury	Mass	65 150
	Rutland	Vt	150 000
	Saco	Me	20 000
1857	Sacremento	Cal	71 600
1859	Sag Harbor	N Y	500 000
1858	Saint Albans	Vt	20 000
	Saint Johnsbury	Vt	15 000
1857	Saint Joseph	Mo	80 0 0
1859	Saint Louis	Mo	50 000
1857	Saint Paul	Min	600 000
1856	Salem	N J	200 000
1850	Salem	Mass	30 000
1859	Salem	O	200 000
1859	Salisbury	N C	25 000
	Salisbury Mills	Mass	14 600
	Salmon Falls	Me	1 250
	San Antonio	Texas	25 000
1854	Sandusky	O	73 000
1859	Sandwich	Mass	75 0 0
1852	San Francisco	Cal	1e 000
	San Jose	Cal	2,000 000
1858	Saratoga Springs	N Y	
	Saugerties	N Y	30 000
1849	Savannah	Ga	30 000
1851	Schenectady	N Y	200 000
1858	Scranton, Gas and Water	Pa	50 000
1857	Selma	Ala	100 000
1856	Seneca Falls and Waterloo	N Y	20 000
	Shreveport	La	80 000
1856	Sing Sing	N Y	40 000
	Smyrna	Del	
1860	South Admas	Mass	10 000
1859	South Bridge	Mass	5 000
	South Boston	Mass	200 000
	Springfield	O	200 000
1854	Springfield	Ill	75 000
1843	Springfield	Mass	100 000
1835	Stamford	Ct	6 250
1857	Staten Island	N Y	150 000
1858	Staunton	Va.	18 000
	Steubenville	O.	100 00a
	Stockton	Cal.	50 000
1848	Syracuse	N Y	125 000
	Tamaqua	Pa	40 000
1859	Tarrytown and Irvington	N Y	70 000
1858	Taunton	Mass	100 000
	Terre Haute	Ind.	100 000
	Thompsonville	Ct	125 000
	Tiffin	O	25 000
	Toledo	O	100 000
1858	Trenton	N J	100 000
1847	Troy	N Y	200 000
1848	Urbana	O	30 000
1856	Utica	N Y	80 000
1849	Vicksburg	Miss	66 000
1853	Vincennes	Ind	25 000
1859	Virginia City	N T	2 500
1853	Walden	N Y	100 000
1858	Waltham	Mass	30 000
1858	Ware	Mass	30 000
1857	Warren	O	20 000
1861	Warren	R I	500 000
1854	Washington	D C	15 000
1855	Washington	N C	20 000
1859	Washington	Pa	100 000
1848	Waterbury	Ct	60 000
1854	Waterford	N Y	20 000
1852	Watertown	N Y	25 000
1852	Watertown	Wis	30 000
1856	Wautome	Wis	20 000
1858	Waverly	Miss	60 000
1857	West Cambridge	Mass	100 000
1854	Westchester	Pa	25 000
1852	Westfield	Mass	20 000
	Weston	Mo	20 000
1857	West Point	N Y	100 000
1858	West Troy	N Y	75 000
1850	Wheeling	Va	20 000
	White Plains	N Y	50 000
1856	Wilkesbarre	Pa	1,000 000
1850	Williamsburg	N Y	30 000
1858	Williamsburg	Va	70 000
1857	Williamsport	Pa	12 000
1859	Williamantic	Ct	60 000
1858	Wilmington	F C	200 000
1852	Wilmington	Del	36 000
1854	Winchester	Va	20 000
1861	Windsor	Vt	20 000
	Woburn	Mass	10 900
1856	Woodstock	Vt	82 600
1858	Woonsocket	R I	25 000
1856	Wooster	O	100 000
1849	Worcester	Mass	
1855	Xenia	O	40 000
1854	Yonkers	N Y	100 000
1849	York	Pa	40 000
	Yorkville	S C	20 000
1858	Ypsilanti	Mich	20 000
1850	Yreka	Cal	30 000
1848	Zanesville	O	44 000

Gas-Light Companies in the British Provinces of N. A	Province	
Belleville	C W	35 040
Brankford	C W	32 000
Brockville	C W	50 000
Chatham	N B	50 000
Charlotte Town	P E I	50 000
Cobourg	C W	30 000
Dundas	C W	30 000
Frederick	N B	50 000
Halifax	N S	160 000
Hamilton	C W	125 000
Kingston	C W	80 000
London	C W	100 000
Montreal	C E	400 000
Ottawa	C W	40 000
Point Levi	C E	25 000
Port Hope	C W	28 000
Quebec	C E	200 000
Saint Catherine's	C W	80 000
Saint Hyacinthe	C E	15 000
Saint John	N B	170 005
Saint Johns	N F	50 000
Sorel	C E	14 000
Toronto	C W	400 000

Gas-Light Companies in Cuba, Mexico, South America & New Zealand,	State	
Callao	Chile	
Cardenas Cubana	Cuba	50 000
Compania	Hav'a	500 000
Glenfuges	Cuba	
Guanabacoa	Cuba	
Regla	Cuba	
Trinidad	Cuba	
Guinea	Cuba	
Guyaquil	S A	150 000
Havana	Cuba	2,000 000
Lima	Peru	100 000
Maranham (Chartered)		
Matanzas	Cuba	50 000
Mexico City	Mex	550 000
Monteviedo	S A	500 000
Para (Chartered)		
Rio de Janeiro	S A	1,000 000
San Iago	Chile	500 000
Saint Jago de Cuba	Cuba	450 000
Valparaiso	Chile	500 000
Vera Grus	Mex	500 000
Ville Clara	Cuba	150 000
Auckland	N Z	

Gas Companies of which we have not received their date of Charter or amount of capital.

Amsterdam, N. Y.	Ellsworth, Me.	Hollis Springs, Miss	Naugatuck, Con
Belleville Ill.	East Saginaw, Mich	Johnstown, N. Y	Parkersburg, W. V.
Balston, N. Y.	Fond-du-lac, Wis.	Kansas City,	Princeton
Bucyrus, O.	Georgetown, D. C.	La Porte, Ind	Reading, Mass
Canta, N. Y.	Genesee, N. Y.	Medford, Mass	Richmond, Ind.
Cooperstown, N. Y.	Grafton, Va.	Middletown, Pa	Rockville, Con.
Corning, N Y.	Greenville, S. C.	Milton, Mass.	Rome, Ga.
Citizens Gas Co. San Francisco	Hanover, Pa.	Mount Vernon, N. Y.	Salem, N. C
Danvers, Mass.	Henderson, Ky.	Murfreesboro, Tenn.	Honolulu.

A NEW OIL-SEED.

Madia is a genus of South American herbaceous plants, belonging to the natural order of Compositae, one of the species of which "Madia sativa," is of value for the oil yielded by its seeds upon pressure. It is a native of Chili, where it has long been cultivated for the sake of its oil, which is of excellent quality. It grows like the aster; the blossom is yellow, and put together in clusters; the stalk is from three to five feet high, grows compact, and requires a sandy soil. The seed is like that of the sunflower, but much smaller.

In Chili the oil is used instead of olive oil, the finer quality for edible and the grosser for illuminating purposes. It was introduced from Chili into Asia Minor with great success, thence into Algeria and the south part of France, and into some warm parts of Germany, and is said to be more abundant in oil than any plant introduced in Europe. It attracted attention in Europe previously to 1839, in consequence of Mr. Bosch, the superintendent of the gardens of the King of Wutemberg, having successfully cultivated it in Germany on a large scale. He found that, as compared with rape and poppies, the amount of oil yielded per German acre was as follows:—Rape yields 240 lbs. oil per German acre; poppies yield 264 lbs. per German acre; madia yields 242 lbs. oil per German acre.

This oil does not congeal at 19 degrees below zero of Reaumur, but only becomes a little less fluid, which makes it a valuable material for keeping machines in order.

In Europe the seed are sown in October, and from four to six pounds are requiced per German acre. The crop is of the easiest management, and the only precaution to be taken by the cultivator, which it is important to notice, is that the seeds must be thrashed out soon after the crop is cut, otherwise the glutinous stalks, when heaped up, ferment and injure the seeds.

The madia is known in Germany as the "Oelgebende Medikraut," or "olmud;" and seed may be had of Messrs. Booth's successors, No. 32 Grosse Reichenstrasse, Hamburg.

IMPORTANT INVENTION.

An English paper states that Mr. Gale, electrician, of Plymouth, has discovered a process by which powder can be rendered non-explosive, and its combustible properties restored when required. The discovery possesses every element of an important and practical invention. The process is simple and effective. It cannot injure the powder. The cost is very small, and it has the advantage of being readily applied. In five minutes a barrel of powder can be made non explosive and in another five minutes it can be restored to its original condition. We have seen gunpowder subjected to this process and stirred with a red-hot poker without an explosion. If a shell burst in a store filled with the prepared powder, it would not fire it. The process can be readily applied to the largest or the smallest quantities, and it does not require any cumbersome apparatus. The invention will solve the serious difficulty which has been felt as to the storage of powder in time of peace, and in war it will avert the danger which now arises from the necessity of fighting in the neighborhood of an explosive material.

NEW MODE OF TELEGRAPHING.

M. Eugene Godard, the imperial aeronaut, has made some very interesting experiments in a method of telegraphing. By the aid of a single luminous point, M. Godard sends messages to any part of the visible horizon. The experiments were tried at the Observatory and in the Rue de Puteaux. A lamp to which a reflector was placed in the third floor of a house in that street, while a similar lamp was burning on the terrace of the observatory. Within three minutes M. Godard sent a message of twenty words to the observatory. The system is extremely simple. By means of screens which by concealing or allowing the light to escape, partial or total eclipses are produced. The screens are either of white or red glass. The colors emitted and the duration of that emission suffice to form an alphabet analogous to that of words used by the usual electric telegraphs. The extreme simplicity of thts method would be specially useful for signalizing at sea in times of war. Two corps d'armee could thus most easily communicate with each other.

A NEW KIND OF FUEL.

A new kind of fuel has been invented by an Englishman named Stoker, composed of carbon in powder as pure as possible, obtained from the distillation of light woods in a close receptacle of various metallic salts and acids acting as the combustible matter, and of different agglomerating bodies such as fecula, &c. The whole is triturated, mixed and pressed, forming a paste, which may be moulded into cakes, balls, &c., of various sizes, to be afterwards dried. When dry this fuel may be lit by a lucifer match; it burns like a piece of tinder, and gives out neither smoke, gas nor flame. The caloric disengaged in the burning of this fuel may be from 45 to 720 degrees Fahrenheit, according to the proportion of the different component parts above cited. This fuel (says the inventor) will be found very useful for heating feet warmers, for urns dishes, and similar articles, for placing in plumbers' soldering irons, or in irons for pressing linen; for heating glue in workshops, or elsewhere where a fireplace would be inconvenient or dangerous, and for many other purposes.

CALIFORNIA GOLD TRADE.

The receipts of gold at the port of New York from California this year, compare with the amount received during the same timb in 1864, as follows:

1864.		1865.	
January 5.....	$241,728	January 5...	$1,148,850
January 17....	365,608	January 14...	383,519
January 28....	324,863	January 27....	511,088
February 6....	365,938	February 5....	650,413
February 25...	452,976	February 14...	264,322
Feb.28, March 6	919,415	March 7.....	1,237,811
March 15.....	335,550	March 15.....	431,163
March 27 Ap. 6.	575,774	April 5.....	1,477,647
April 14.....	269,522	April 13.....	632,524
April 28.....	282,376	April 26.....	69,676
May 5.....	274,812	May 5.....	664,281
May 16.....	383,428	May 15.....	225,376
May 27.....	275,520	May 25.....	367,993
June 5	250,346	June 0.....	570,210
Total.....	$5,417,864	Total.....	$8,624,872

Excess received in New York this year, $3,207,008

The shipments of gold fron San Francisco to May 17, this year, compare as follows with the exports during the same time in 1864;

Shipments to May 17, 1864,.....	$24,261,425
Same time in 1865.....	3,207,008
Decrease this year.....	$8,133,999

In 1864, the coal mines of Pennsylvania produced 15,000,000 tuns, and its iron mines yielded 700,000 tuns.

NITRIC ACID.

In a paper addressed to the French Academy of Sciences by M. Dietzenbacher, we find a few new facts concerning nitric acid. It is well known that boiling nitric acid is a powerful oxidizing agent, and that it is constantly used in laboratories for that purpose; but even at the ordinary temperature fuming nitric acid will produce similar effects, which acquire a high degree of intensity when monohydrated nitric acid is mixed with Nordhausen sulphuric acid, that is, with anhydrous sulphuric acid which has attracted moisture, and is distinguished from common oil of vitriol by its dark color and the fumes it emits. Boiling nitric acid is known to transform sulphur into sulphuric acid; fuming nitric acid will do the same when brought into contact with flowers of sulphur at the common temperature; yellowish-red vapors are seen to rise, the mixture becomes hot, and the liquid obtained will cloud chloride of barium—a sure sign of the presence of sulphuric acid. Sulphur in sticks is oxidized in the same way, but less violently. Much depends on the degree of concentration of the nitric acid, and if a few drops of Nordhausen sulphuric acid be added the reaction is very strong. Fuming nitric acid will dissolve phosphorus at the common temperature; phosphorus burns in contact with a mixture of equal parts of fuming nitric and sulphuric acids. The experiment is not without danger. Fuming nitric acid attacks red phosphorus but slightly; after some time the liquid resulting from the operation will precipitate the acid nitrate of bismuth. In the mixture of monohydrated nitric acid and forming sulphuric acid a portion of red phosphorus is transformed into phosphoric acid and catches fire, the reaction being accompanied by a copious emission of the usual yellowish-red vapors of deutoxide of nitrogen. The mixture of fuming nitric acid and Nordhausen acid is one of the most powerful agents for oxydation known; for the latter not only attracts all the water of the nitric acid, but also determines a real decomposition of it when the temperature increases. If a mixture of concentrated nitric acid and the Nordhausen one be heated in a glass retort to boiling point, an abundant evolution of pure oxygen is obtained. The mixture of the two acids will in a few minutes change arsenic into arsenious acid; at the common temperature fuming nitric acid alone does not exercise any sensible action on arsenic. In the same mixture charcoal and lampblack will burn very briskly. A mixture of fuming nitric and phosphoric acid will produce the same effect. The mixture of these two acids exercises no action on easily oxidizable metals. Zinc, which is violently attacked by concentrated nitric acid, experiences no alteration in the mixture of that and the Nordhausen acid; it may lie in it for days and even at boiling point, without any symptom of reaction. But this mixture will immediately transform cotton into gun cotton, which will catch fire without leaving residue.

Hitherto the Prussians have alone possessed the secret of manufacturing the fulminating substance used by their infantry for the needle guns. Numerous experiments have been made in other countries to discover the substances used, but without success. M. Cordts, of Altona, has now composed a substance of that kind, which not only produces an instantaneous explosion, but it is not affected by damp.

The well known beautiful marbles of Sienna and the golden veined marbles of Portoro are variable mixtures of the metamorphous carbonates of protoxyd of iron and lime.

A NEW MUCILAGE.

In a paper addressed to the Academy of Sciences, M. Ch. Blondeau describes a new mucilage, extracted from a sea plant, the *fucus crispus* which grows in abundance on the coast of Normandy and Brittany, and the leaves of which, of a dark green color, are deeply indented. This plant is used for food after undergoing a certain preparation, which consists in washing it in river water, in order to rid it of its salt, and then exposing it to the air for several days. During this exposure it emits vapors having the peculiar odor of sea plants, and at the same time exchanges its green color for a beautiful white. In this state the *fucus crispus* is without any taste or smell; in biting it, it is found to crackle like a dried membrane; but by degrees the saliva exercises its dissolving effect upon it, and it may then be absorbed into the system, but without exercising the slightest action on the organs of taste. When strongly heated it emits a smell of burnt leather, which denotes that nitrogen is one of its constituent parts, and, indeed, if calcined with lime, it evolves ammonia. This fucus is completely insoluble, both in alcohol and ether; but when boiled in water for a certain time it dissolves, forming a mucilage which cools into a jelly strongly resembling gelatine. It may, however, be easily proved that it is not that substance, since its dissolution is neither precipitated by tannin, by alum, nor by acetate of lead, and if boiled with sulphuric acid it does not produce glycocolla. In order to obtain this substance, which M. Blondeau calls *goemine*, in a state of purity, he boils the *fucus crispus* in distilled water for several hours, and the mucilage thus obtained, dissolved in water, is precipitated from the latter by alcohol. The precipitate is again dissolved in water, and the solution evaporated in a water bath. Goemine is thus obtained in thin, transparent and elastic plates, resembling isinglass, and, like the latter, possessing the property of swelling up and becoming soft when soaked in cold water. Goemine is neutral to test paper; it dissolves in hydrochloric, and also in sulphuric and nitric acids; it is at the same time rapidly soluble in potash, and in this it differs completely from the cellulosic substances which form the vegetable types, since none of these will dissolve in any of those agents except sulphuric acid. Judging from the large quantity of nitrogen it contains, it must be one of the most nutritive substances in the world.

THE MALE AND FEMALE VOICE.

A late number of the Musical Review contains an interesting article on the voice and song, showing the difference between the male and female voice. Nature alone has given the human being two distinct kinds of voice, that are again divided and sub-divided. It says:

In order to make the causes of this clear, let us cast a glance at one of the simplest laws of tonal vibration. For example—we take a string of a certain length and strength, and give it a certain tension. If with a bow, or simply with the finger, we set it in motion we shall perceive a tone, which we shall call C. Here is another string of the same strength and tension, but only half the length of the last. If we set it in motion, it also gives out the tone C—but not the same; it is finer, higher, more penetrating. If we now strike both strings, we perceive this difference more distinctly and recognize that peculiar unison which musicians term octaves. In order to give forth the high C, the short string is obliged to give forth twice as many vibrations as the long one, but in the same time. Without knowing or willing it, we obey the same laws of vibration. Ask a young girl to sing an air that has just been sung by a man, and in the same key; she will sing it an octave higher. The finer and more delicate voice of a woman makes more vibrations in the same time than that of a man, and is higher from that cause. The woman is the octave, the half of the man. The good citizens who call their wives their "better halves" are right, musically speaking The octave exists through the might of the right divine.

In the male and female voice there are again two principal subdivisions, man sings tenor or bass, woman contralto or soprano. The contralto is the octave of the bass, the soprano the octave of the tenor. Each of those voices has its own peculiar character that does not depend merely on compass or on fullness, but rather on tone coloring. A union of these is seldom found. Exceptional voices appear, which are called mezzo-soprano among woman, and baritone among men.

THE COAL TAR COLOURS.

At the Royal Institution, lately, Mr. F. Field delivered a lecture on "Magenta and its derivative Colours obtained from Coal Tar," in course of which he stated that one of the recent discoveries of these colours was that of Haffin's violet, a mass of which was placed on the lecture-table; and this mineral, though derived from a mere refuse product, is five or six times the value of its weight in silver, the mass on the table being estimated to be worth 700*l*. A great many experiments were exhibited, showing the production of various colours from the same agent, in which many substances were dyed. Mr. Field mentioned as an instance of the great intensity of the colour of magenta, that when the Great Eastern was disabled and lying in the trough of the sea, considerable alarm was entertained on account of the blood-colour of the water extending for a great distance round the ship. It was asterwards discovered that this effect was produced by the breaking of a vessel containing a quantity of concentrated magenta. Much has been hitherto discovered respecting the nature of coal-tar dyes, a good deal yet remains to be found out, among which may be included the discovery of the means of imparting some of the dyes to woollen material as easily as to silk.

FORMATION OF CORAL.

Mr. Lacaze Duthiers has lately undertaken a series of investigations on this subject, for the purpose of prosecuting which, he has been spending some time on the coast of the Mediterranean. In a late paper published in the Quarterly Journal of Science, IV., 1864, he states that in tracing the development of the red coral he met with considerable difficulty, in consequence of the apparent impossibility of retaining the ova of the polyp in a state of vitality. He, however, at length succeeded, and watched their development from a spherical, naked vesicle to the perfect coral. The first change observed was a lengthining in the ova, a cavity forming (subsequently developed into the mouth) in the interior, a worm like creature provided with minute porapodia being produced, the length being scarcely one sixteenth of an inch. These worm like larvae had a tendency to aggregate and flattening to apply their extremities to the sides of the glass vessel in which they were placed. This they all eventually did. They then gradually enlarged in breadth and diminished in length, becoming lens-shaped disks, in the midst of which was the oval aperture. Around this the tentacles were developed. The characteristic red color of the ectoderm was then developed, whilst the tentacles retained their want of color, appearing in the perfect coral-like stars.

WHAT IS "STERLING" MONEY?

During the reign of Richard I., King of England about 1190, money which was coined in the eastern part of Germany became of great demand on account of its purity. The inhabitants of that portion of country where this pure coin was made were called "Easterlings"—hence, the name "Easterling" money was applied to the coin brought from that region. Soon afterward, some of the "Easterlings" who were skilled in coining were sent for to come to London and bring the process of coining to a state of perfection there. This was accomplished, and the English coin took the name of "sterling money," which it retains to the present time.

FISH AS FOOD.

There is much nourishment in fish, little less than butcher's meat, weight for weight; and in effect it may be more nourishing, considering how, from its soft fiber, fish is more easily digested. Moreover, there is in fish a substance which does not exist in the flesh of land animals, viz: iodine—a substance which may have a beneficial effect on the health, and tend to prevent the production of scrofulous and tubercular diseases, the latter in the form of pulmonary consumption, one of the most cruel and fatal with which the civilized, the highly educated and refined are afflicted. Comparative trials prove that, in the majority of fish, the proportions of solid matter—that is, the matter which remains after perfect desiestion, or the expulsion of the aqueous part—is little inferior to the several kinds of butcher's meat, game or poultry. And if we give attention to classes of people classed as to equality of food they principally subsist on, we find that the ichthyophagus classes are especially strong, healthy and prolific. In no class then that of fishers do we see large families, handsome women, more robust and active men, or greater exemptions from maladies.

An English journal says:—Our French neighbors are not content wtth entering the lists with us in horseflesh and steam engines, but are treading on telegraphic ground. We have no English instruments for general use under eighteen or twenty pounds, but can obtain French instruments, with works unequalled by anything we have yet produced, even at the price I name, and less liable to derangement, for less than eight pounds complete. The inventor has agents in London, Manchester, and Halifax, and is progressing quietly but surely in defiance of all competition. His secret seems to be good workmanship, a moderate profit and the abolition of all royalties, alias penalties.

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To Advertisers.—Our paper offers a superior medium as an advertising agent, to all those who manufacture or sell machinery or appliances of any kind for Gas, Mining, Water, Sewerage, the production or purification of Oils, &c. &c., not so much on account of a wide-spread circulation, as from the fact that it goes directly to the hands of those who are constantly using and requiring machines and improvements for these branches, and who look hrough our columns for information where to procure them. The class of people who read our paper not only peruse our pages of reading matter, but read the advertisements as well, for the reason that they are directly interested in all things pertaining to their business. We therefore ask, with confidence that we can do them justice, all parties having machinery or improvements of any kind for either of the objects to which our paper is devoted, to send in their advertisements and avail themselves of these advantages. It will be observed that our ms for advertisers are very reasonable.

OIL IN COLORADO.

Our townsman, Mr. Haslap, informs us that the company of which he is a member has struck oil between Bear and Turkey creeks, about twelve miles from Denver toward the mountains, or just west of the Hog-back, and that he has an immense flow of oil. That he has struck oil we have not the least doubt, because we found oil in '61 on the Hog-back ridge, but after examining the locality did not consider it as good as another, which we afterward selected and bought at Canon City. If he has really secured the flow he anticipates his well is of immense value. He reports it only thirty feet deep, and yet he thinks it will yield two thousand barrels per day.—*Colorado Miners' Register.*

THE MINING & PETROLEUM STANDARD AND AMERICAN GAS-LIGHT JOURNAL, is published at Tribune Buildings, No. 1 Spruce st. on the 2d and 16th of every month, and is a recognized official organ of—

LIGHT, HEAT, MINING INTERESTS.

PETROLEUM, WATER-SUPPLY, AND

SCIENTIFIC SUBJECTS GENERALLY.

JAMES W. BRYANT, EDITOR AND PROPRIETOR.

W. S. SHERMAN, PUBLISHER.

PROF. C. ELTON BUCK, CONSULTING CHEMIST.

SUBSCRIPTION—Three dollars per annum in advance.

ADVERTISEMENTS.—One dollar per inch in column for each insertion. Large space or long time by special contract.—Payable in advance.

☞ All communications to be addressed to "The Editor," No 1 Spruce Street, New York.

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The Mining and Petroleum Standard

AND

AMERICAN GAS-LIGHT JOURNAL,

PUBLISHED ON 2D AND 16TH OF EVERY MONTH.

JAMES W. BRYANT, ... EDITOR.

MONDAY, JULY 17, 1865.

☞ We shall have twenty or thirty vols. of our last year's issue bound, which we will furnish to subscribers at $3 each, or non-subscribers at $4.

We are advised that the old established firm of J P. Melledge & Co., Boston, has ceased, and that Messrs. Bird, Perkins & Job have succeeded to the house. Mr. Melledge is connected with them as a special partner.

THE DETROIT CONVENTION.

We learn that in the Convention at Detroit the Mineral interests of Lake Superior was represented. For some time there has been quite a rivalry existing between Detroit and Chicago for the possession of the route of the iron and copper of Lake Superior to the sea. The rival interests are led by the Chicago and Northwestern Railway on the one hand, and the Detroit and Milwaukee and Great Western, of Canada, on the other. So far Chicago has distanced Detroit, as the Northwestern Railway Co. has perfected arrangements, and now has rail and water communication from Chicago direct to Marquette, the centre of the mining region. Chicago has many public spirited men, who saw far enough into the future to learn the importance of securing the trade of the Superior region, and with commendable promptness have completed the Green Bay and Marquette extension.

DIFFERENT KINDS OF CALIFORNIA OIL.

The Colusa Sun, in alluding to the difference in the appearance of the oil obtained from the various localities in that county, says:

"We are now satisfied that there is but one kind of oil in the district in this county. Dr. George, who has been in that region for several months, is of the opinion that the different colored oil we get is entirely owing to the chemical substances through which it passes, so that when the fountain is reached it will all be alike. We have ourselves noticed places where the oil was thin and clear when it first came out of the ground, and would get thick and dark after it came in contact with the water on the surface."

GAS WORKS.

We find among the earliest objects of restoration at the South, that the repairs of the Gas Works are considered, and many inquires are made in reference to late improvements in apparatus and plans for generating gas. In our last volume the subject of Wood Gas was treated upon, although much may yet be developed in apparatus and co-operating hydro-carbons to advantage. Generating gas from petroleum oil, is now favorably considered where coal cannot be conveniently obtained, and a system will soon be presented to the public for this purpose, which from our observation, is an excellent one.

It applies to small interior towns, hotels, factories and other buildings situated remote from Gas Works. There is quite a demand for all kinds of material to repair the wear of the Gas Works for the past four years, and we are glad that prices have decreased. There are a number of places where Gas Works are much wanted. but in consequence of the very high price of iron and other articles required, the erection of them has been delayed—they will now be undertaken.

We regret that we cannot induce the Engineers and Superintendants of Gas Companies, to give us in writing their experience for general benefit, but where science and experiment produces favorable results, the author feels that it is his property, and, not unjustly. keeps his hard earned knowledge to himself.—It is essential to small Gas Companies that they should know the improvements which are made by the scientific Engineers of the larger works, and we shall obtain what information we can and submit it for perusal in our columns. There are several gentlemen who readily consent to give information upon personal inquiry, but who are unwilling to write communications upon the subject, although so interesting. Among them, Col. Sabatton, Engineer of the Manhattan, and Col. White, of the Metropolitan Gas Companies, have ever been ready to respond to any questions submitted to them.

We shall continue, as heretofore, to obtain information for our patrons, and will with pleasure supply them with any details as to the construction of works, &c., if desired in private correspondence. We are awaiting the results of some experiments now being made with anthracite coal, as also the further progress of Dr. Elmer's plans, and shall give full accounts of them so soon as they are completed.

Since the above was written, we have received the following communication, and it so well accords with the statement above made of the difficulties we meet in procuring facts and experiments, that we give it to our readers.

MR. EDITOR—It may be deemed an unreasonable question in the minds of some of your utilitarian readers for me to ask, why do the various Gas Light Companies of the United States preserve such perfect and cautious silence upon all questions of scientific developements in their own special department of knowledge? Why are they so exclusive in all experiments, that they will not permit even "the left hand to know what the right hand does?" Why are the secrets of each laboratory kept hermetrically sealed within its own walls—nor even a scintillation given by which inquiry may be enlightened by experiment? In every other department of human knowledge, it has ever been the delight of the philosopher to unfold every new truth that comes within their observation to the mental vision of their brother seekers after truth, to the end that as truth spreads it becomes stronger, and the general wealth of knowledge is increased by the efforts of its votaries.

And in every other country, except our own, this same spirit of diffusing a knowledge of the progress of truth appertains, as well to explorers in this special department of chemical science as in all its other channels, but the never re-ting yankee ignores his own nature by a degree of reticence here, which is wholly incompatible with his nature in every other respect. We pick up journals devoted to this specialty in France, or Germany, or England, and we constantly see indications of the progress of this department of knowledge emanating from those who are devoted to its pursuit, and which are calculated to enlarge its sphere of usefulness and perfect its beauty: but, sir, I challenge you to produce one single article emanating from any Gas corporation, or, as far as my knowledge extends, from any of its officers, which is calculated to enlighten the public mind with regard to the progress of scientific discoveries in their department.

But sir, be it understood, I would not hold you in any manner responsible for this condition of things, for I am rejoiced to be able to testify to the earnest industry you have exhibited in culling from every source within your reach, every fact that tends to the advancement of the specialty to which you are devoted. I do not complain that your paper is not interesting—that would be unjust, for it is fully equal to its profession—but I do complain that those whose positions are such that they can and ought to give it additional interest, have not done so.

In the hope that this condition of things may not last, I am, Yours, &c., SORITIA.

Chicago, July 12th, 1865.

It has been judicially decided that passengers alighting from horse or rail cars have the right of way, and those who wish to get into the cars must first give the outcomers reasonable time to leave.

A raft of logs, estimated to contain 700,000 feet of lumber, measuring a half-mile in circumference, was lately towed up Lake Memphramagog.

In the State of Missouri there are nine blast furnaces, making, when they are in full blast, about forty thousand tuns, of which only three are now running.

PETROLEUM REVIEW.

July 3.—The market is dull and much depressed; sales have been made at 35 cts. for Crude, buyer and seller all next month; on the spot there is nothing doing, and prices are nominal at 36 cts. for Crude; 51 and 52 cts. for Refined in bond, and 70 and 72 cts. for do. Free.

July 7.—There has been no great desire to purchase, and in order to effect sales holders were compelled to lower their quotations at the close; prices are entirely nominal at 35 cts. for Crude, 51 and 52 cts. for Refined in bond, and 71 and 72 cts. for do. free; Naphtha is scarce and decidedly better; we quote at 48 and 50 cts.

July 8.—Receipts to day 1,563 bbls. including 813 per Erie and 750 per Camden; the market is less active and prices are easier; sales of 500 bbls. Crude, buyer next month at 34 cts. we quote on the spot at 34 and 34½ cts. for Crude; 48 cts. for Refined in bond and 68 cts. for Refined free.

July 10.—Receipts to-day are 1,045 bbls. including 617 bbls. per Erie, and 428 per Camden; the market still rules very dull; we hear of no sales; prices are nominal at 34 and 34½ cts. for Crude, 48 and 48½ for Refined in bond, and 68 and 68½ for do. free

July 11.—Receipts to-day are 1,859 bbls. including 1,141 per Erie, and 21 per Camden; the market is dull and prices are nominal at 34 and 34½ cts. for Crude; 48 and 49 cts. for Refined in bond; and 68 and 69 cts. for do. free.

July 12.—Receipts to-day, 2,163 bbls. including 379 per Erie, and 784 per Camden; the market is firm at 35 cts. for Crude; 49 and 50 cts for Refined in bond, and 68 and 70 cts. for do. free; sales of 1,000 bbls. Crude, buyer's option, June, at 36 cts.

July 13.—Receipts to-day are 214 bbls. per Camden, the market is quiet, but prices are without special change, we quote Crude at 35 and 35½ cts. Refined, in bond, 49 and 50 cts. and do. free at 69 and 70 cts.

July 15.—Receipts to-day, 669 bbls. including 246 per Erie and 423 per Camden, the market is quiet, but at the close prices are a shade firmer, we quote at 35 and 35½ cts for Crude, 49 and 50 cts. for Refined in bond, and 69 and 70 cts. for do. free.

NEW YORK MINING EXCHANGE.

NEW YORK, July 15, 1865.

	Bid.	Asked		Bid.	Asked
Copper Stocks.			***Gold Stocks.***		
Aztec	7⅛	9	Benton	1	1¼
Bedford	1	1⅛	Consol'd Gregory	25	28⅞
Boston	4⅛	5⅜	Corydon	—	3
Caledonia, A. P.	10	12	Gunnel	3⅜	4⅛
Canada	3½	4	Great Western	—	8
Carp Lake	3	5	Hope	—	9
Central	65	70	Isaac's Harbor	⅝	¾
Columbian	—	24	Manhattan	—	9
Copper Falls	34⅜	38	Mariposa	44	44⅛
Clifton	—	$1	Montana	½	1
Dacotah	—	5½	New York	2½	3
Derby	⅜	1⅜	N. Y. & Nova Scotia	⅝	1⅛
Douglass	—	—	Quartz Hill	9⅛	10
Evergreen	18¼	20	Quicksilver M'g Co	81	82
Flint Steel River	12	13⅛	Rocky Mountain	—	10⅛
Frue	2¾	5	Smith & Parmelee	7	12
Grand Portage	—	—			
Hancock	12½	14	***Coal Stocks.***		
Hamilton	—	6	American	98	100
Hilton	5	6	Ashburton	—	25
Hudson	1	2	Central	62	65
Huron	32	33	Cumberland	61	62
Indiana	8⅛	9¼	Del & Hud. Canal	206	208
Isle Royale	20	20⅝	*Hampshire & Balt.	104	110
Keweenaw	—	6	Pennsylvania	213	215
Knowlton	7	10			
Lafayette	1	2	***Lead Stocks.***		
Manhattan	—	—	Bucks County	⅝	¾
Mendota	—	—	Clute	1⅝	1⅞
Merrimac	4¾	5⅜	Erie	—	20
Minnesota	33	37	Mac mb	3½	5
New York, A. P.	2	3¼	Plancentia Bay	1⅛	1⅜
N. J. Consolidated	4	4⅛	Sussex	⅜	⅞
Norwich	—	6	Wallkill	3½	6
Ogima	5	6¾			
Ontonagon	3	4	***Iron Stocks.***		
Penn	—	11⅜	Copake	8	10
Providence	1¾		French Creek	⅞	1
Quincy	96⅝		Teal Lake	4⅜	6
Reliance	1⅛				
Rockland	12½		***Miscellaneous.***		
Superior	8⅜		Rutland Marble	17	20
Sharon Consolidated	—				

* *Ex. div.*

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6·00 P. M., Lightning Express, Daily, for Canandaigua, Rochester, Buffalo, Salamanca, Dunkirk and West. Connects at Buffalo with Lake Shore and Grand Trunk Railways, and at Salamanca with Atlantic and Great Western Railway.

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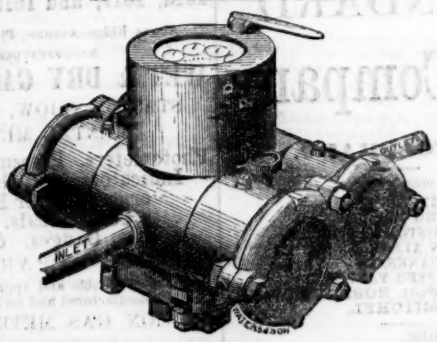

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131 186 Seventh Avenue, New York City

New York, April 18th, 1864.

* * * * * *

We respectfully invite your attention to and consideration of the justly celebrated and reliable remedy for DYSPEPSIA, HEARTBURN, DEBILITY and PROSTRATION. The Proprietors are proud to acknowledge the unparalleled success which has attended the sale of their valuable preparation, known in nearly every portion of the civilized world as the

"GOLDEN BITTERS."

We risk nothing when we term them a *valuable preparation*, for they are one of the few articles of the present day which are not a humbug; and we are willing and able to satisfy any person or persons who will call upon us, that the celebrated "GOLDEN BITTERS" are a genuine *bona-fide hygienic* article. It is the wish of the proprietors that the virtue of the article be tested before condemning. A decision of their merits by any one who has tried them, is worth a million of purchased bogus testimonials.

For Creating a Healthy Appetite

they are invaluable, and are unequalled as a Tonic. They are mild in their action, and operate by giving *vigor* and *strength* to the system,—not by any change they produce in the solids, but through the medium of the living principle.

They are Purely Vegetable,

being composed of Gentian Root, Calamus, Sassafras, and many other remedial agents of the Vegetable world, all preserved in Jamaica Rum and Sherry Wine.

As a Beverage

They are the most *wholesome, invigorating* and *palatable* stimulant ever offered to the public. And the fact of their being prepared chemically and scientifically, precludes the possibility of a bitter, unpleasant taste, common to Bitters generally offered for sale. We especially recommend them to LADIES, and particularly to those suffering from

DEBILITY, WEAKNESS, AND PROSTRATION.

Half a wine glass of these "Bitters" three or four times a day, will produce a remarkable healthy change in persons greatly debilitated.

The "Golden Bitters" have been tried and not found wanting. They are put up in our own *Patent* quart bottles, and for sale by Druggists, Grocers, &c., throughout the world. Each bottle bears a fac-simile of the signature of Hubbel & Co.

GEO. C. HUBBEL & CO., Sole Proprietors.

CENTRAL DEPOT, American Exp. Building, New York.

THE GOLDEN BITTERS.—We are not an advocate of stimulants of an alcoholic character; indeed we deprecate this "daily tonic" idea—this "morning toddy" which we see offered in all sorts of shapes as a recuperator, invigorator, revitalizer, &c. As a rule all artificial stimulants are dangerous remedies, and must be taken into the system as you would mercury or arsenic, in very small doses. But we have had an opportunity to try the new well-advertised article known as Hubbel's Golden Bitters, and are frank to say that where the system needs building up, where a stimulant is required to aid nature in restoring a lost appetite and infusing a vigorous action to the debilitated functions, we can recommend these Bitters. Hubbel's Golden Bitters are evidently intended to improve the debilitated human system rather than to tickle the palate, and are, therefore a harmless and safe remedy to keep in the house.—*New York Weekly Day Book.*

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MINES on FISK LODE,
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In all, 8,625 feet (linear), and large water powers and mill sites.

Capital issued, 40,000 shares, at $10 per share. A limited number of shares are offered at the low SUBSCRIPTION PRICE (having been reserved for their customers), by

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SAFEST AND CHEAPEST SYSTEM OF INSURANCE.

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The Policies entitled to participate receive 75 per cent. of net Profits.

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CASH CAPITAL, $200,000. CHARTERED 1824.

The insured receive seventy-five per cent. of the net profits annually, without incurring any liability. When preferred, a discount will be made in lieu of participation in profits.

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MANUFACTURER OF
WET & DRY GAS METERS,
STATION, SHOW, & EXPERIMENTAL METERS,
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GAS APPARATUS
Of the most reliable and approved construction manufactured and on hand at the
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PUTNAM'S CLOTHES WRINGER.
IT IS THE ONLY RELIABLE
Self-Adjusting Wringer.

No Wood-work to Swell or Split. No Thumb-screws to get out of order. Warranted with or without Cog wheels.

It took the First Premium at Fifty-seven State and County Fairs in 1863, and nearly double that number in 1864, and is, without an exception, the *best* Wringer ever made. Patented in the United States, England, Canada, and Australia. Agents wanted in every town, and in all parts of the world. Energetic agents can make from $3 to $10 per day.

WHAT EVERYBODY KNOWS, VIZ.:

That Iron well galvanized *will not rust.*

That a *simple* machine is better than a complicated one.

That a Wringer should be *self-adjusting, durable, and efficient.*

That thumb-screws and fastenings cause *delay* and *trouble* to regulate and keep in order.

That wood soaked in water will *swell, shrink,* and *split.*

That wood-bearings for the shaft to run in *will wear out.*

That the Putnam Wringer with or without cog-wheels, will *not tear the clothes.*

That cog-wheel regulators are not essential.

That the Putnam Wringer has *all* the advantages, and *not one* of the disadvantages above named.

That all who have tried it pronounce it the *best* Wringer ever made.

That it will wring a thread or a bed-quilt *without alteration.*

We might fill the paper with testimonials, but insert only a few to convince the skeptical, if such there be; and we say to all, *test* Putnam Wringer. Test it *thoroughly* with *any* and *all* others, and if not entirely satisfactory, return it.

PUTNAM MANUFACTURING CO.—*Gentlemen:* I know from practical experience that iron well galvanized with zinc will not oxydize or rust one particle. The Putnam Wringer is as near perfect as possible, and I can cheerfully recommend it to be the best in use. Respectfully yours,
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Many years' experience in the galvanizing business enables me to indorse the above statement in *all particulars.*
JOHN C. LEFFERTS, No. 100 Beekman St.

NEW YORK, *January,* 1864.—We have tested Putnam's Clothes Wringer by practical working, and know that it will do. It is cheap; it is simple; it requires no room, whether at work or at rest; a child can operate it; it does its duty thoroughly; it saves time, and it saves wear and tear. We earnestly advise all who have *much* washing to do, with all intelligent persons who have *any,* to buy this Wringer. It will pay for itself in a year at most. HORACE GREELEY.

PRICES—$8, $9, and $10.
Sample Wringers sent, express paid, on receipt of price.
Manufactured and sold, wholesale and retail, by
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STOCKS, BONDS,
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Bought & Sold.
ON COMMISSION,

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GENERAL
PURCHASING
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In Connection with all the Expresses,
No. 30 Broadway,
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Established 1854.

Purchases to order ANY article wanted from New York, (or from Europe,) for ladies' or gentlemen's use or wear,—comfort or luxury—from a cameo to a cashmere—a sealring to a steam-engine.

Goods purchased at current City prices, and forwarded by Express, or as directed.

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The Adams Express Company, appreciating the need of a capable medium connecting with the various Express Lines, through which personal and other orders for goods from this city, can be satisfactorily supplied, do recognize CARRINGTON & CO.'S GENERAL PURCHASING AGENCY as such a medium for filling orders for every description of goods wanted from New York, and commend it to the attention of the public, and of our general and local agents, recommending our agents to extend to it all reasonable aid, by facilitating the distribution of its cards and circulars, and making known the advantages it affords.

ADAMS EXPRESS CO.
By W. B. DINSMORE, Prest.
NEW YORK, June, 1864.

We cheerfully concur in the above recommendation of the Adams Express Company.
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By HENRY WELLS, Prest.
UNITED STATES EXPRESS COMPANY,
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The Greatest Improvement yet in the Sewing Machine Art!

A CURIOSITY WORTH SEEING!

Please send for circular with sample of sewing.

These Improved Machines save ONE HUNDRED PER CENT. of thread and silk, and make the LOCK-STITCH alike on both sides.

They require no instruction to operate perfectly, except "the printed directions."

No change in sewing from one kind of goods to another.

And no taking apart to clean or oil.

Our NEW MANUFACTORY is now complete, with all its machinery and tools entirely new, and is already rapidly turning out Machines which for BEAUTY and PERFECTION of FINISH are not surpassed by any manufacture in the world.

N. B.—Should any Machine prove unsatisfactory, it can be returned and money refunded.

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For Lighting and Heating Purposes.
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HYDRAULIC CEMENT SEWER PIPE,
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Sewer Pipes extensively used in Brooklyn, and now introduced in New York, Jersey City, Newark, Hartford, Albany, and other localities, from 3 to 24 inches in calibre.
Water Pipes, lined and coated with Cement mortar, ready for laying and back filling, and can be tapped like cast-iron pipes, which they excel in durability, discharge, and economy.
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NON-FREEZING & NON-EVAPORATING FLUID,
For Filling Wet Gas-meters,
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Far Cheaper than any other Meter-fluid in use.
WARRANTED
Not to corrode tin, iron, brass, zinc, or drum-metal.
To be less injurious to wet meters that water.
Not to freeze at 20 degrees below zero, Fah.
Not to evaporate when in use in the meters, meters once filled with it requiring no further attention whatever for years.
The summer is the proper time to fill them.
SIX YEARS OF SUCCESS!
Five years in general use in works using it, to the exclusion of all other fluid, and driving the dry meter out of use, enables us to recommend our patent with perfect confidence.
For information and references, apply to
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Guaranteed to effect a great saving in fuel and give the most perfect regularity of power. For sale by the subscribers, who have established their exclusive right to manufacture damper regulators, using diaphragms of flexible vessels of any kind. CLARK'S PATENT STEAM AND FIRE REGULATOR COMPANY, No. 5 Park Place, New York.

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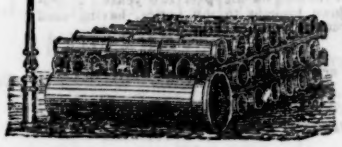

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Now contract their works to make 10,000 feet of good Gas from 2,000 pounds of *hard* wood and 40 gallons of kerosene tar, *before payment can be demanded;* and the charcoal is worth the cost of the wood.
Many Village Gas Companies can be referred to.

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And Contractor for Coal or Oil Gas-Works.
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To Manufacturers of Petroleum Gas.
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Apply at the Gas-Works of St. Nicholas Hotel, No. 68 Mercer st., N. Y., where one can be seen in operation; or address D. Parrish, Jr., St. Nicholas Hotel, New York city, or No. 1416 Arch street, Philadelphia.

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Cheaper than Whisky Or any OTHER SUBSTANCE,
We have furnished the Cincinnati Gas and Coke Company 300 barrels Glycerin, for filling their wet meters, and are now ready to supply other Gas Companies at the lowest cash prices.
We warrant our Glycerin not to corrode the meter metal, nor to freeze at the lowest ordinary temperature, nor to evaporate.
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Great Improvement
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Sewing Machines.
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SHUTTLE MACHINE!
Patented February 14th, 1860.
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This Machine is constructed on entirely new principles of mechanism, possessing many rare and valuable improvements, having been examined by the most profound experts, and pronounced to be SIMPLICITY and PERFECTION COMBINED.
It has a straight needle, perpendicular action, makes the LOCK or SHUTTLE STITCH, which will NEITHER RIP nor RAVEL, and is alike on both sides; performs perfect sewing on every description of material, from Leather o the finest Nansook Muslin, with cotton, linen, or silk thread, from the coarsest to the finest numbert.
Having neither CAM nor COG WHEEL, and the least possible friction, it runs as smooth as glass, and is
Emphatically a Noiseless Machine!
PRICE OF MACHINES,
COMPLETE:
No. 1, Family Machine, with Hemmer, Feller, Gauge, Braider, & Corder, complete. - - - $60
No. 2. Small Manufacturing, with Extension Table, $75
No. 3. Large Manufacturing, with Extension Table, $85
No 3. Large Manufacturing, for Leather, with Rolling Foot and Oil Cup, 100
One-half hour's instructions is sufficient to enable any person to work this Machine to their entire satisfaction.
Agents Wanted in all Towns in the United States, where Agents are not already established. Also, for Cuba, Mexico, Central and South America, to whom a liberal discount will be given Terms, invariably Cash on delivery.
T. J. McARTHUR & CO.,
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Conically Slotted Solid Wood Sieves
FOR GAS PURIFIERS.
The Conically Slotted Solid Wood Tray or sieve was patented 21st October, 1862, and all persons are cautioned against purchasing them of any other person except the subscriber. The following companies are now using these trays.
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Louisville, Ky.
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And numerous others
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NEW YORK FIRE-BRICK and Clay Retort Works. (Branch Works at Kreischerville, Staten Island.)
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GAS RETORTS, TILES and FIRE-BRICK of all shapes and sizes. FIRE MORTAR, CLAY, and SAND. Articles of every description made to order at the shortest notice. B. KREISCHER.

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JOHN NEWKUMET,
Manufacturer of all kinds of FIRE-BRICK, GAS-HOUSE TILES, to suit all the different plans in use. Clay Retorts and Dentists' Muffles. Orders filled at short notic

WEST'S IMPROVED PUMPS, the most Simple, Durable, and Powerful, and the Cheapest in use.
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179 BROADWAY, N. Y.

WORTHINGTON'S STEAM PUMPS, extensively used by Gas-Light Companies. For Sale at greatly Reduced Prices.
Also, a new and highly successful Pump, driven by water pressure, requiring no attention or repairs, and the most economical water motor yet constructed.
Patent GATES, for Water and Steam-stops.
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WILCOX & GIBBS SEWING MACHINE
It is entirely noiseless.
A patented device prevents it being turned backward.
The needle cannot be set wrong.
It received the Gold Medal of the American stitute in 1863.
InSend for a circular containing full information, notices from the press, testimonials from those using the machine, &c.
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THE UNDERSIGNED DESIRES TO undertake the supervision of several small Gas-works, to visit and examine them as often as may be necessary; to obtain and inspect their coal, castings, fire-brick, and other materials; and to manage their general business in such a manner that they shall be under such supervision as is now attainable in large works, at much increased cost. Also, to advise as general Consulting Engineer and expert in practical chemistry.
CHAS. M. CRESSON,
Late Asst. Engineer of the Philadelphia Gas-works
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DON'T FAIL TO READ THIS!

COFFEE

COFFEE! COFFEE!

EAST INDIA COFFEE CO.

154 Reade St.,

(Three doors from Greenwich St.,) NEW YORK,
Call universal attention to their
KENT'S
☞ **East India Coffee,**

KENT'S EAST INDIA COFFEE
Has all the flavor of OLD GOVERNMENT JAVA, and is but half the price; and also that

KENT'S EAST INDIA COFFEE
has twice the strength of Java, or any other Coffee whatever and wherever used by our first-class hotels and steamboats—the stewards say there is a saving of 50 per cent.

KENT'S EAST INDIA COFFEE
is the most healthy beverage known, and is very nutritious. The weak and infirm may use it at all times with impunity. The wife of the Rev. W. Eaves, local minister of the M. E. Church, Jersey City, who has not been able to use any coffee for fifteen years, can use

KENT'S EAST INDIA COFFEE
three times a day without injury, it being entirely free from those properties that produce a nervous excitement.

Dr. JAMES BOYLE, of 156 CHAMBERS ST., says: "I have never known any Coffee so healthful, nutritious, and free from all injurious qualities as

KENT'S EAST INDIA COFFEE.
I advise my patients to drink it universally, even those to whom I have hitherto prohibited the use of Coffee.

The PRINCIPAL OF THE NEW YORK EYE INFIRMARY says: "I direct all the patients of our Institution to use, exclusively,

KENT'S EAST INDIA COFFEE,
and would not be without it on any account.

The Rev. C. LARUE, an eminent clergyman of the M. E. Church, now stationed at Halsey street, Newark, says of

KENT'S EAST INDIA COFFEE,
"I have used it nearly a year in my family, and find it produces no ache of the head or nervous irritation, as in the case of all other Coffees. It is exceedingly pleasant, and I cordially recommend it to all clergymen and their families."

KENT'S EAST INDIA COFFEE
is used daily by the families of Bishop Am Bishop Baker, Bishop James, and many of the most distinguished clergymen and profession men in the country."

Beware of Counterfeits!
and be sure that packages are labeled
KENT'S EAST INDIA COFFEE,
154 Reade Street, New York,
as there are numerous counterfeits afloat under the name of "Genuine East India Coffee," "Original East India Coffee," etc.* put forth by imposters to deceive the unwary.

In 1 lb. packages, and in boxes of 35, 50, and 100 lbs., for Grocers and large Consumers. Sold by Grocers *generally.*

Orders from Country Grocers solicited, to whom a very liberal discount will be made.

Wholesale Agents: Hoeflish & Molan, and W. J. Heiss & Bro., Philadelphia; Francis H. Perry Providence; A. L. Waite & Co., Boston; Pynchon & Lee, Springfield, Mass.; S. N. Callender, Buffalo; Gordon McMillan & Co., Cleveland; A. A. Colter & Co., Cincinnati; J. & J. W. Bunn, Springfield, Ill.; H. B. Shields, Corydon, Ind.; and C. C. Garber, Chicago.

The Am. Adv. Agency, 308 Broadway, N. Y., will receive orders for the above named Coffee.

Business Dep., E. ALVORD. | *Corresp. Dep.,* F W [illegible]

GROVESTEEN & CO.,

PIANO-FORTE MANUFACTURERS.

499 BROADWAY, NEW YORK.

The attention of the public and the trade is invited to our New Scale Seven Octave Rosewood Piano-Fortes, which for volume and purity of tone are unrivalled by any hitherto offered in this market. They contain all the modern improvements, French, grand action, harp pedal, iron frame, over-strung bass etc., and each instrument being made under the personal supervision of Mr. J. H. Grovesteen, who has had a practical experience of over thirty years in their manufacture, is fully warranted in every particular.

THE "GROVESTEEN PIANO-FORTE"

Received the highest award of merit over all others at the Celebrated World's Fair!

where were exhibited instruments from the best makers of London, Paris, Germany, Philadelphia, Baltimore, Boston, and New York; and also at the American Institute for five successive years, the gold and silver medals from both of which can be seen at our warerooms.

By the introduction of improvements we make a still more perfect Piano-Forte, and by manufacturing largely, with a strictly cash system, are enabled to offer these instruments at a price which will preclude all competition.

PRICES.

No. 1, Seven Octave, round corners, Rosewood Plain Case, $275.
No. 2, Seven Octave, round corners, Rosewood Heavy Moulding, $300
No 3, Seven Octave, round corners, Rosewood Louis XIV, style $325, a fac-simile of the accompaning cut.

TERMS—NET CASH, IN CURRENT FUNDS. Descriptive Circular sent free.

LILLIE'S

CELEBRATED

Chilled and Wrought Iron Safes,

WROUGHT IRON FIRE-PROOFS,

LOCKS AND VAULT DOORS.

These Fire-Proofs are manufactured to supply a demand for Security Against Fire, less expensive than my celebrated and superior Chilled and Wrought Iron Burglar and Fire-Proof Safes.

They furnish similar and equal security to the Safes generally manufactured in the different cities, but are Superior to them in their Fire-Proof qualities and durability, the iron being effectually protected from rust in any climate, and the fire-proof not subject to lose its utility by age. This is an important advantage gained to the purchaser, as Safes often rust out and become worthless in two or three years.

To substantiate my position, those purchasing these Fire-Proofs are at liberty, by giving me due notice of time and place of trial, to test them by fire with any other Safe of the same size; and should they not prove superior, I will refund the money, or a new Fire-Proof, as the purchaser may decide.

LIST OF SIZES & PRICES OF WROUGHT IRON FIRE-PROOFS

	Outside.			Inside.			
No.	Height.	Width.	Depth.	Height.	Width.	Depth.	Price.
6	40	31	27	31	21	15	$150
5	34	21	26	24	21	14	125
4	31	27	25	22	18	13	110
3	30	24	24	21	15	12	100
2	28	22	23	20	14	12	75
1	24	19	20	17	11	10	50

Sample of Fire-Proof Safe at Office of the Am. Ad. Agency, 389 Broadway, N. Y.

PRICE LIST.

LILLIE'S CELEBRATED CHILLED & WROUGHT IRON SAFES.

BANK, FIRE, AND BURGLAR SAFES.
Folding Doors, D Lock.

	OUTSIDE.			INSIDE.			
No.	Height.	Width.	Depth.	Height.	Width.	Depth.	Price.
	In.	In.	In.	In.	In.	In.	
1	66	30	29	54½	39	18	$950
1½	59	50	26	48	39	15	800
2	53	44	27	42½	33	15	600

MERCANTILE F AND B SAFES.
Folding Doors and Monitor Locks.

3	50	42	27	40	32	16	$500
4	46	42	27	36	32	16	450
4½	38	46	27	28	36	16	450
5	42	38	27	31½	27½	15	350

Single Doors and M. Lock.

6	35	30	26	27½	23½	15	$250
7	34	31	26	24	21	14	200
8	31	28	24	21	18	13	175
9	30	24	24	21	15	12	140
10	26	22	22	19½	18½	12	120
11	24	20	18	17	17	10	100

HOUSE SAFES

SIDE BOARD	$600
DINING ROOM	350
PANTRY (No. 1)	275
PANTRY (No 2)	150
DODECAGON BANK LOCK	100
MONITOR SAFE do.	50
SAFE do.	10

NATIONAL BANK SAFES,
With 2 Inside Burglars and 1 D and 2 M Locks.

	OUTSIDE.			INSIDE.			
No.	Height.			Hei	Width.	Depth.	Price.
	In.			In.	In	In.	
1	68			55	39	18	$1,200
2	61			48	32	18	1,050
3	57			42½	33	18	900

BANK VAULT BURGLAR SAFES,
With Folding Doors and D Lock.

0	68	53	27	64	48	20	$1,000
0½	61	53	27	55	46	20	800
1	57	47	27	49	40	20	600

BANK VAULT BURGLAR SAFES,
Single Doors and D Lock.

2	53	32	26	49	28	
	42	35	22	38	32	19
4	36	31	20	32	27	
5	30	24	18	26	20	14

BANK VAULT DOORS AND FRAMES,
D and 8 Lock.

No.	Height clear.	Width clear.	Depth adjustable.	Price.	Weight.
	In.	In.	In.		
1	72	27	20	$400	3,000
2	72	27	20	275	1,500

Orders received and filled at net cash prices, by the AMERICAN ADVERTISING AGENCY, 389 Broadway, New York. All Safes shipped from Troy free of cartage.

Business Depart., E. ALVORD. *Corresponding Depart.*, FOWLER AND WE

WEST'S IMPROVED PUMP.

Anti-Freezing, Double-Acting, Forcing, and Lifting

These Pumps have now been in general use a number of years, and give better satisfaction than any other, and are recommended as

THE BEST!

by CAPTAIN ERICSSON and other eminent engineers. We can refer to thousands using them, a guarantee that all will recommend them. They are more simple in construction, and work easie and cost less than all others.

"Our readers will find the double acting, improved pump of J. D. West & Co., one of the best in the market. It is very simple, works to a charm, so that any child may use it; draws a steady, continuous stream, and does not freeze in the coldest exposures, and is unusually cheap. We say this knowingly, and give the testimony of our own accord, without the knowledge or request of the proprietor "—*New York Evening Post, July 1st*, 1863.

"J. D. WEST & CO.: We are pleased to state that the Pumps we had of you about a year ago, have been in constant use, twelve hours each day, and raise for the use of our woolen factory, about 130 gallons per minute. They work with but little power, compared with pumps we have used before, and do not get out of repair, and are satisfactory in all respects.

"DUNLAP MANUFACTURING CO."

Solon Robinson to the Farmers' Club. Jan. 23.

"No farmer who owns a well or cistern can possibly afford to be without an iron pump. It should be a once a suction and force pump—a perfect little fire engine—such a one known as 'West's Improved Pump.' I speak of this Pump because I happen to know it ...to be very simple, durable, powerful and cheap, and it don't freeze up, nor get out of order once a year....I know this, and think I may be doing the farmers good by speaking of it ...A boy ten years old can work it, and throw a continuous inch-and-a-quarter stream....It can be made to work in deep wells as well as in shallow ones."

"GREAT NECK, L. I., 1860.

"I have used this Pump for one summer and winter, exposed to the northwest wind coming over Long Island Sound, being the coldest possible exposure, and at no time did it freeze, nor were we unable at any time to pump water with great ease.

H. B. MC ILVAIN."

"The undersigned having to use "West's Improved Pumps," cheerfully recommend them as simple, durable, and powerful in raising and throwing water, and for their ease of action, security against frost, and low price, we believe them superior to all others.

"WARREN LELAND, Met. Hotel, N. Y.
"J. W. POMEROY, Yonkers, N. Y.
"JOHN MESEREAU, N. Y.
"DOMINICK LAWRENCE, Westchester."

From the New York Observer.

"We have had in use for months past one of West's Pumps, which has given us more satisfaction as a force and lifting pump than any we have ever used. It is one of great power, and well adapted for ship's decks, mines, factories, greenhouses, graperies, etc. *The Mining Chronicle and Railway Journal* says: 'It is recommended for its extreme simplicity of construction, great strength, and consequent durability and cheapness of repair. There is no stuffing-box—the pressure being held by a cup packing, like that upon the working-piston, working in a cylinder, fitted for the purpose within the upper air chamber—which we think a great improvement, as stuffing is so liable to be deranged and leak under strong pressure, to say nothing of the loss by friction incident thereto. It has also two air-chambers; thus the action of the valve is cushioned upon both sides by air—preventing water-hammer and vacuum-thump. The valves are very accessible and simply and cheaply repaired. They work much easier than any pump we have ever seen; the 4-inch cylinder being worked by children in wells 100 feet deep, and as they are extremely cheap, as well as simple and strong, we freely recommend them.'"

"CAMBRIDGE MINE, N. C., June 15, 1863.

"J. D. WEST & Co.—Gents: The Pump which I ordered for our mine is received, and put to work in our underlay shaft, which we are sinking. We find that one man will, with ease, lift 40 gallons per minute. We lifted in three and a half hours all the water in the shaft, which measures seven by twelve feet and thirty feet deep, and it was full when we commenced. It answers our expectations in every respect, and our workmen are highly pleased with it. It will do great service with but trifling expense for repairs.

"Yours, respectfully, BURR HIGGINS."

"This may certify, that I have been using, at my manufactory, for the last four years, 'West's Improved Pumps.' I now have in use three of said Pumps, one of which is kept constantly at work, 24 hours of each day (save Sundays), and has been running for the past two years. I pronounce them, unhesitatingly, the best Pumps that have been brought to my notice, having used many others previously. They are simple in their construction, and not easily disarranged.

"N. Y., Oct. 10, 1859. JAS. A. WEBB."

We have plenty more such certificates, but think these are enough. For Pumps, Hose, Pipe, etc., address or call upon

J. D. WEST & CO., 179 Broadway, New York.

Orders may be sent through the AMERICAN ADVERTISING AGENCY, 389 Broadway

AMALGAM BELLS,
AMALGAM BELLS,
AMALGAM BELLS,
AMALGAM BELLS

At prices within the reach of every Church, School, Cemetery, Factory, or Farm in the land. Their use throughout the United States and Canadas for the past six years has proven them to combine most valuable qualities. Among which are TONE, STRENGTH, SONOROUSNESS, and DURABILITY OF VIBRATION, unequalled by any other manufacture. Sizes from 15 to 5,000 lbs., costing TWO-THIRDS LESS than other metal, or 25 cents per pound, at which price I warrant them twelve months. Old bell metal taken in exchange, or bought for cash. Send for a circular to the manufacturer,

JOHN B. ROBINSON,
No. 36 DEY STREET, NEW YORK.

List of Academy, Steamboat, Fire-alarm, and Church Bells, with particulars as to Weight, Sizes, Price of Bells, Hangings, etc.

Weight of Bells.	Diameter.	Price of Bells without Hangings.	Price of Patent Hangings.	Price of Bell and Hangings complete.
225 lbs.	26 inches.	$56 00	$15 00	$71 00
275 "	42	69 00	18 00	87 00
375	34	94 00	22 00	116 00
450	84	112 00	25 00	137 00
600	02	150 00	30 00	180 00
750	39	188 00	35 00	225 00
1,000	64	250 00	42 00	292 00
1,200	48	300 00	45 00	345 00
1,400	50	350 00	50 00	400 00
1,600	52	400 00	54 00	454 00
1,800	55	450 00	60 00	510 00
2,000	58	500 00	62 00	562 00
2,500	60	625 00	72 00	697 00
3,000	63	750 00	85 00	835 00
3,500	66	875 00	87 00	962 00
4,000	69	1,000 00	100 00	1,100 00
4,500	72	1,125 00	113 00	1,238 00
5,000	75	1,250 00	125 00	1,375 00

List of Prices, Weights, and Sizes of Farm, Hotel, Steamboat, Schoolhouse, Shop, and Factory Bell.

These Bells are fitted with Yoke, Standard's Crank and Bolt, complete for use.

Weight of Bell and Hangings.	Diameter.	Cost of Bell and Hangings complete.
15 lbs.	7 inches.	$3 75
20	8½	5 00
35	10	8 75
50	12	12 50
75	16	18 75
100	18	25 00
150	20	37 50
200	22	50 00
250	24	62 50

Larger Sizes made to Order at 25 cents per pound.

Guarantee.—All Bells sold at the above prices WARRANTED against breakage by fair ringing, for TWELVE MONTHS from time of purchasing. Should one fail, a new bell will be given by returning the broken one.

Orders may be sent through the AMERICAN ADVERTISING AGENCY, 389 Broadway, New York.

In case a Bell breaks after the expiration of the Warrantee, I allow HALF PRICE for the old metal. JOHN B. ROBINSON, 36 Dey Street, N. Y.

PRINCE'S METALLIC PAINT,

AN INDESTRUCTIBLE COATING FOR

IRON, TIN, and WOOD.

It consists of seventy-two parts Oxide of Iron, and twenty-eight parts Cement Lime Stone in the one hundred pounds.

It has much more body than red or white lead. It is warranted perfectly water and fire-proof and to withstand a greater heat on metals without scaling, than any other paint in use.

It is a perfect cover for all kinds of iron, tin, or wood-work, out-houses, and canvas coverings. Prevents and arrests the corrosion of metals, and is not affected by the action of salt, gases, acids ammonia.

It hardens under water, as has been fully demonstrated by its application to gas-holders, by many of the largest gas companies in the United States; which companies having thoroughly tested its properties as herein claimed, pronounce in its favor over any other paints in the market, even though sold at double its price.

As a coating for patterns of iron or wood, when mixed with shellac, it is much superior to beeswax, oil, or shellac alone, as has been proven at the large founderies in the country.

For patching boilers and making joints, it is considered superior to red lead, or any other preparation.

For cleaning metals it takes the place of crocus, rouge, and emery, being better and cheaper.

This Paint requires no more oil than dry lead or zinc, and much less than the ordinary mineral paints. It is free from any waste, and possesses a spreading and covering power unequaled.

Terms, by the Barrel or Half Barrel, Five Cents per Pound.

A liberal discount made to parties purchasing by the ton.

A Barrel or Ton will be forwarded to any gas companies desirous of testing its qualities, for which there will be no charge if it does not give entire satisfaction as being the cheapest and most durable of all other Paints in the market.

Also, Prince's Imperial Black Paint, and Prince's Protoxide of Iron.

DANIEL SLOAN, General Agent,
115 LIBERTY STREET, NEW YORK.

Local Agent—CALVIN GAY, 29 Doane st., Boston.

GEO. H. KITCHEN & CO.,
NEW PATENT
GAS APPARATUS
For Country Residences, Public Buildings, &c.,
FROM $300 UPWARDS.
EVERY DESCRIPTION OF GAS FIXTURES.
Gas Fitting in all its branches
561 Broadway,
NEW YORK.

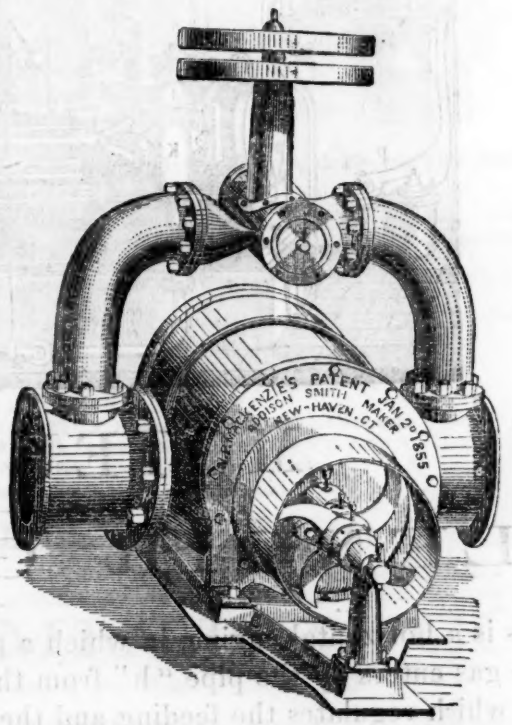
SCHMIDLIN & DRISCOLL,
MANUFACTURERS OF
HALL, STREET & CHURCH LANTERNS,
Show Window and Street Lamp Reflectors,
135 Mercer Street,
NEW YORK.

S. FULTON & CO.,
(Successors to Colwell & Co.)
Manufacturers of
PIG IRON & CAST IRON GAS & WATER PIPES.
Also, Heavy & Light Castings of every description, No. 207 North Water street and 206 North Wharves, Philadelphia.
SAMUEL FULTON, THEO. TREWENDT

POOLE & HUNT,
BALTIMORE, MD.,
are prepared to execute orders for
GAS-HOLDERS,
IRON-ROOF FRAMING,
And all other descriptions of
Iron Work for Gas-Works, Water-Pipes, and Heavy Castings, and Machinery generally.

SMITH & SAYRE,
MANUFACTURING COMPANY.

THE MACKENZIE PATENT GAS EXHAUSTER
AND
PATENT COMPENSATOR.



They are made to pass from 4,000 to 150,000 cubic feet of gas per hour; will increase the tion and illuminating power of the gas, and add very much to the durability of the retorts, e clay or iron. The Compensator obviates entirely the necessity of water-joints, is compact, dur cleanly, not liable to get out of order, self-acting, quiet, and certain in its operation.

We are also sole proprietors and manufacturers of the

MACKENZIE PATENT BLOWER, PATENT CUPOLA AND SMELTING FURNACE.

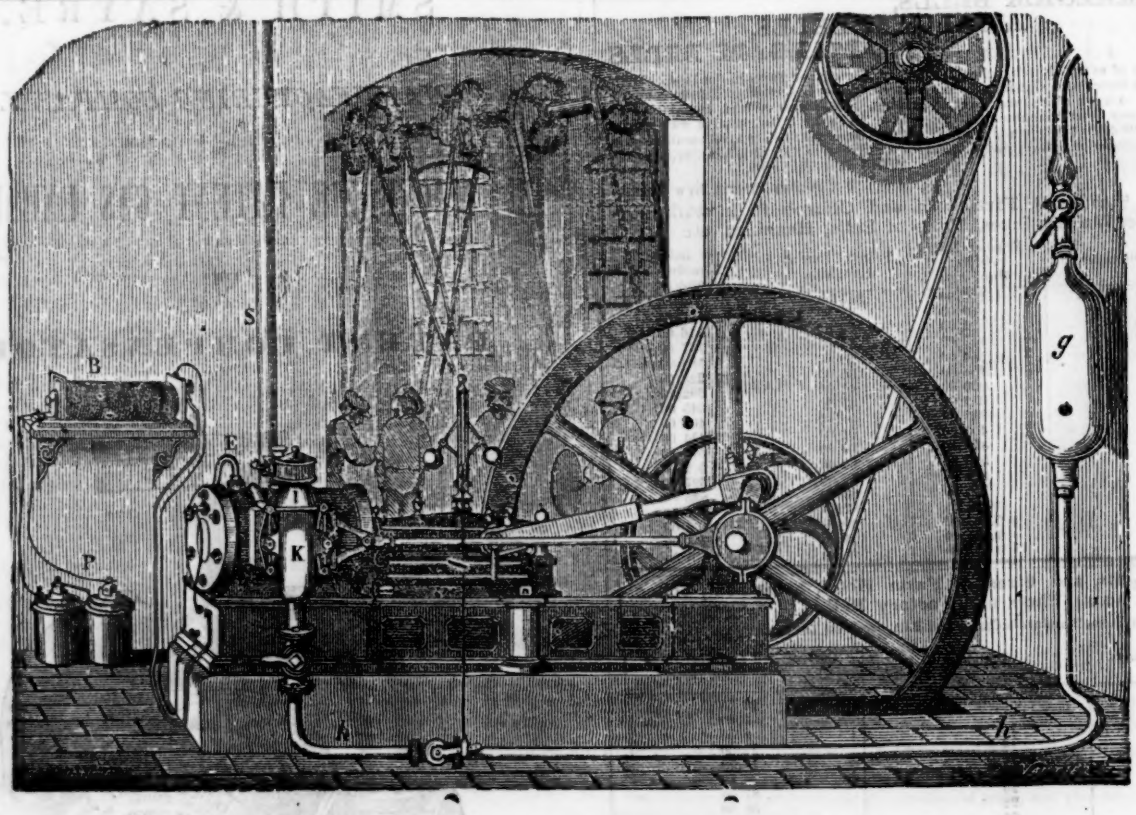
The Blower is a Force Blast machine, durably built, and can be driven with one-third the p●e required to drive the ordinary Fan. The Cupolas are manufactured in sizes to melt from 1 ton to 20 tons per hour, will save one quarter of the time required by the old style Cupola, and 33 per cen uel. Address

Office 484 Broadway, New York.

ADDISON SMITH, Prest. JAS. SAYER, Treas, CHAS. W. ISBELL, Sec'y.

MORRIS, TASKER & CO.,
PASCAL IRON WORKS
[ESTABLISHED 1821,]
PHILADELPHIA,
Manufacture Wrought Iron Welded Tubes for Gas, Steam or Water; Lap-Welded Boiler Flues, GALVANIZED WROUGHT IRON TUBES,
ARTESIAN WELL PIPES,
of Wrought or Cast-Iron, screwed together, flush inside and out; Gas-works Castings, Retorts and Bench Castings for Coal Gas-works,; Cast-Iron Street Mains, Bends, Branches, Drips, &c.
Gas and Steam Fitters' Tools, &c.
STEPHEN MORRIS,
THOMAS S. TASKER,
CHAS. WHEELER,
STEPHEN M. P. TASKER.

J. VAUGHAN MERRICK, W. H. MERRICK,
JOHN E. COPE.
SOUTHWARK FOUNDRY,
FIFTH & WASHINGTON STREETS,
PHILADELPHIA.
MERRICK & SONS, Engineers,
MANUFACTURERS OF EVERY DESCRIPTION OF GAS MACHINERY.
Retorts, Bench Castings, Condensers, Washers, Scrubbers, Wet or Dry Lime Purifiers, Coke Wagons, Fire Tools, Wrought Iron Grate Bars, Gasholders, either Telescopic or Single, with Suspension Frames complete; Wrought Iron Roof Frames, for Iron or Slate; Stop Cocks, Exhausters, Steam Pumps, Boilers and Tanks, Steam or Hand Air Pumps for providing Street Mains, Centre Seals, Governors, Wrought or Cast-Iron Line Sieves for Purifiers, Purifier Hoisting Machines, &c., &c.
Address— MERRICK & SONS,
5th and Washington Streets, Philadelphia



MOTEUR—LENOIR.

LENOIR GAS ENGINE.

This is a horizontal engine, in which a piston, by a connecting rod drives a horizontal shaft.

The gas enters by the pipe "h" from the regulating reservoir "g," (made of vulcanized india rubber,) which regulates the feeding and the branches connected with the gas-pipe.

The tube, K, receives the gas conveyed by the pipe "h," and conducts it to the valve, which opens and closes alternately, by means of a rod moved by an eccentric wheel fastened to the end of the shaft.

Two of Bunsen's piles, P, sufficient to produce the electricity are placed at a little distance from, and in communication with a Ruhmkorff electric apparatus, B. The electric current of this apparatus is conducted by means of insulated wires to the electricity distributor "m," placed on the front of the frame, while the current of electricity and its arrival at the inflammator, inserted at each end of the cylinder, is directed by the movement of the piston-rod, which, by an ingenious combination, impels a small movable slide before the distributor.

The burnt gas, after having performed its functions in the machine, escapes, by means of a valve, through a pipe, S, and the water designed to cool the interior of the cylinder enters through a double passage, by means of a pipe situated near the escape-valve, and goes out by the pipe, E.

A two horse and a half horse Engine are now in practical operation at the Dry Dock Iron Works, No. 435 East Tenth street, near East River, New York, where they are being manufactured, and those interested are invited to call and examine them.

THE LENOIR GAS ENGINE

Requires no Fire and makes no Smoke,

No Noise, no Dirt, and is thoroughly safe.

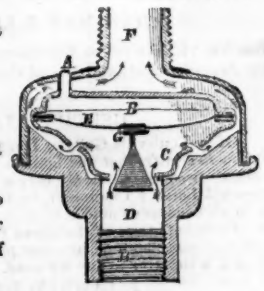
It is propelled by the expansion of Air, dilated by the combustion of Gas within the cylinder, ignited by the

ELECTRIC SPARK

NOTICE TO GAS COMPANIES AND GAS CONSUMERS

THOMPSON'S PATENT GAS CONTROLLER,

The only Self-Acting Gas Controller, Regulator, and Burner Combined which has ever been invented, or known to science.



THE PRINCIPLE UPON WHICH THE THOMPSON'S AUTOMATIC GAS CONTROLLER works is one well known to mechanics, and is simple in its operation.

Within the circumference of a small cylinder below the burner is placed a conical valve attached to a movable diaphragm. The diaphragm rises or falls as the pressure of gas from the pipe is lesser or greater, and the valve acts upon the valve-seat with such regularity of movement that in a difference of from five-tenths of an inch pressure to five inches the variation in flame is hardly perceptible.

The simplicity of its machinery and the nature of the material used in its construction insure its regular action and durability.

In consequence of the uniform quantity of gas which passes the Controller to the burner, there is no waste, and a steady, soft flame is produced, which is important to all who read, write, or work by gas-light. The unsteady flickering blaze which invariably exists when the pressure of gas is beyond the requisition for consumption, has injured the sight of thousands who have been subjected to it.

For street lamps these Controllers are especially valuable, because the pressure varies materially during the night, and in consequence there is a waste of gas, and the light variable.

Improvements have lately been made in the mechanism of the Controller which makes them almost a perfect meter to each burner, and they are now offered to the public with more confidence than ever before.

Reference is permitted to the following named gentlemen—

Col. CHAS. ROOME, President Manhattan Gas Company, N. Y.
C. H. SANDS, Esq., President Metropolitan Gas Company, "
J. H. ADAM, Esq., President New York Gas Company, "
PETER COOPER, Esq., Cooper Institute, "
JOHN A. DUFF, Esq., Olympic Theatre, "
GEO. H. KITCHEN, Inspector of Gas Meters, N. Y.
A. L. BOGART, Esq., Gas Engineer.
Col. J. A. SABATTON, Engineer Manhattan Gas Company.
Col. A. J. WHITE, Engineer Metropolitan Gas Company.
J. K. SIMPSON, Esq., Engineer Cooper Institute.

Persons interested are invited to call at the Office, 111 Pearl street, where they can see the operation by pressure guage and test meters

M. L CALLENDAR, Agent

Office, 111 PEARL STREET.

THE AMERICAN METER CO.

Organized under the General Manufacturing Laws of the State of New York.

SAMUEL DOWN, PRESIDENT. HENRY CARTWRIGHT, VICE PRESIDENT. RICHARD MERRIFIELD, SECRETARY AND TREASURER.

TRUSTEES.

SAMUEL DOWN, WILLIAM HOPPER, R. H. GRATZ. HENRY CARTWRIGHT, RICHARD MERRIFIELD.
THOMAS C. HOPPER, *Superintendent at Philadelphia.*

This Company is now prepared to furnish WET AND DRY GAS METERS, STATION METERS, GOVERNORS, PRESSURE INDICATORS & REGISTERS, SERVICE and METER COCKS, and all other articles in their line appertaining to the use of Gas-Works.

The combination of Mechanical and Scientific Skill, and the long experience of the several members of the Company, is a sure guarantee of durab ility, and excellence of workmanship. Orders addressed

AMERICAN METER COMPANY,

512 WEST TWENTY-SECOND STREET, NEW YORK,
ARCH AND TWENTY-SECOND STREETS, PHILADELPHIA,
No 23 WEST STREET, BOSTON, will meet with prompt attention.

HARRIS & BROTHER, PRACTICAL GAS METE MANUFACTURERS,

Continue, as heretofore, at their old Establishment, **No. 1117 CHERRY ST., PHILADELPHIA,** to Manufacture

WET AND DRY GAS METERS, and all kinds of GAS APPARATUS, and furnish all articles appertaining to the use of Gas Works. ☞OUR WORK WARRANTED—Satisfaction Guaranteed. Orders respectfully solicited, and promptly attended to, by

HARRIS & BRO, No. 1117 Cherry st., Phila.

Messrs. Harris & Brother, Philadelphia Gas Works, February 14, 1857.

Dear Sirs—I take great pleasure in stating that we have found your meters to register with entire correctness, and to be generally of very good quality; the number furnished by you to these works is over 5,000.

JOHN C. CRESSON, Engineer.

Office of the Gas Light Company of Augusta, Ga., March 6th, 1858.

This is to certify that having used meters manufactured by Messrs. Harris & Bro., for the last nine years, we do not hesitate to state they have given entire satisfaction in point of workmanship and accuracy of registration; they are surpassed by none, and equalled by few manufactories in the Union; we have used meters made by other establishments, but our preference is in favor of those made by Harris & Bro., of Philadelphia, Pa.

G. S. HOOKEY, Superintendent of the Gas Light Company of Augusta, Ga,

Messrs. Harris & Brother, Philadelphia. Philadelphia, March 4, 1858.

Gentlemen—We take great pleasure in bearing our testimony to the very superior character of the meters we have received from your establishment. We have always found the workmanship all we could desire, while the accuracy and reliability of their measurement have always been satisfactory. We have used meters made by other parties, and none have given as entire satisfaction as those received from you. We are, gentlemen, very truly, yours, BIRKINBINE & MEARS.

Messrs. Harris & Brother. March 14, 1857.

Gentlemen—For the last ten years we have used in the Philadelphia Gas Works, meters made in your factory and take pleasure in expressing my opinion as to their correctness. On several occasions I have taken your meters apart, and found the materials used in the manufacture of the same to be as fine quality as is used in those imported from Europe, or made by any of the manufacturers in the United States.

Respectfully Yours, GEORGE WIEGAND,
Inspector of GasFittings, Philadelphia

GLYCERIN

For Wet Meters, Gasoline Machines, Hydraulic Presses, &c.

We warrant our Glycerine free from acid and not to corrode the Meter metal, or to congeal or freeze at a stated temperature—also, not to evaporate to any extent The advantages and savings derived from the use of our fluid can be testified by many Gas Light Companies which we have supplied. We only refer to the certificates of H. J. Miller, Esq., President of Cincinnati G. L. and Coke Co., and Dr. J. Lawrence Smith, Professor of Chemistry in the Louisville College, and President of the Louisville Gas Co.

HARTMAN & LAIST,

Office No. 71 Main street, Cincinnati —Chemical Works on Providence st. and Miami Canal, near Findlay st.

CERTIFICATE

Office Louisville Gas Co., Louisville, June 28, 1865.

This is to certify, that the Louisville Gas Co. have used for about two years, the Glycerine prepared by Messrs. Hartman & Laist of Cincinnati, in their Wet Meters, and have in all instances found it to give most perfect satisfaction. Prior to the use of the above Glycerin, we had employed that manufactured by other parties, and we consider H. & L.'s superior to any we used.

J. LAWRENCE SMITH, President.

Office Cincinnati Gas Light and Coke Co., July 7, 1865.

This will certify, that Messrs. Hartman & Laist of Cincinnati, furnished this Company with Glycerin for Wet Meters some two years since It has proved very satisfactory, having resisted the action of frost during two winters and evaporating not more than six per cent. per annum, as guaranteed by them. The standard being, for density, 15 deg Beaume's scale. They were the first to introduce it practically to this Company. H. J. MILLER, President.

☞L. BRUCKMAN, 107 Warren street, up-stairs, Agent for New York.

BROWN'S

PATENT BABY TENDER.

THE BABY-TENDER.

Is the most complete and useful Nusery Invention of the age. From a charming Spring Cradle, it is easily and almost instantly converted into either of the following articles namely:

A Reclining Couch, for children to young to sit alone.
A Spring Chair.
A Baby Walker, attractive and useful.
An Ottoman, for the parlor or dining room.
A Hobby-Horse, for children under five years.
A Baby-Jumper, for security, exercise and amusement. (See cut)
A Baby-Horse, or, when elevated,
A High Chair, for the table.
A Nursery Chair.

The motion of the Baby Tender, which is vertical and noiseless, is derived from a Spiral Spring in the Ottoman; and, unlike that of the common Rocking or Swinging Cradle, is in the highest degree healthy, delightful and soothing. It relieves the mother from the hardest part of baby-tending.

Prices from $25 to $50.

AGENTS WANTED.

Terms cash.

When packed the Baby Tender alone measures seven cubic feet, and weighs about one hundred pounds. The horse adds about one-fourth to the weight and measurement.

☞Send for Descriptive Catalogues.

BABY-TENDER MANUFACTURING COMPANY.
939 Broadway, N. Y.

Gas Fixtures and House Furnishing GOODS.

E. V. HAUGHWOUT & CO.,

No.'s 488, 490 and 492 Broadway,

Corner of Broome street, New York,

Manufacturers and dealers in

Chandeliers and Gas Fixtures.

Have a large and very choice assortment of GAS FIXTURES, which they offer at reduced prices, in view of the recent fall in gold. Their

Glass and Fire Gilt Chandeliers, are of entirely new designs,

And well worthy of attention by those who wish to purchase

☞ *Fine Fixtures for their Houses.*

They also offer a fine collection of

Real and Composition Bronze Clocks, Mantel Setts and Figures, Parian Statuary, Sterling Silver and Plated Ware, French, China, and English Stone Ware, Dinner, Tea & Toilet Setts, Glassware, Mirrors and Cornices.

☞All Imported goods sold in conformity with the price of gold.

OFFICE OF WM. DAVIDSON,
INSPECTOR OF GAS METERS FOR THE STATE OF NEW YORK,

☞At the above address. 127

Brooklyn, July 10, 1865

Dr. Ernest D. Pape, 1132 Broadway, New York.

Dear Doctor—Allow a grateful heart in this manner, to express, as nearly as possible, its emotions at the signal service you have rendered to me. I adopt the columns of this journal as the medium of communication, because its publisher, Mr. W. S. Sherman, visited me and saw my deplorable situation just before I received your professional services, and, therefore, knew how wonderful has been the success of your treatment in my case. I am, as you know, when in health, a small man, the measurement of my waist being about 30 or 32 inches—but when I first obtained your services, I had, after a confinement of eight months to my room from Dropsy, attained the enormous girth of 63 inches. My legs being also swollen to an enormous extent, while my whole system was so prostrated and enervated, that vital power seemed to be taking its leave of my earthly tabernacle. But, sir, by most assiduous attention and the exercise of what I must call wonderful skill, you have been the means, under Heaven, of restoring me to perfect health, and I now walk the earth erect again and feel myself a man.

I have chosen to make this communication to the public without consulting you, because I feared that your modesty might interfere with my intention, and if, in so doing, I have shocked your sense of delicacy, be assured that it was done that I might acknowledge my obligation, and instruct my fellow citizens as to your worth at the same time.

I remain, dear sir, your deeply grateful friend,

B. C. THOMPSON,
Classon Av., between Bergen and Dean sts., Brooklyn.

WATER AND GAS PIPE.

The Boston Bituminized Pipe Company,

Are now manufacturing and prepared to take orders, for their PATENT PIPE, (from 2 to 12 inches in diameter,) as a substitute for Iron, Copper, Lead, &c., for the conveyance of WATER, GAS, SEWERAGE, &c. &c.

From the testimonials received, and the entire satisfaction it has given those having it in use, we feel warranted in claiming for this pipe over that of any other, the following advantages, viz:

It is much CHEAPER—has great strength (it having been tested to 500 lbs. to the square inch,) combined with LIGHTNESS, costing less for transportation; the joints are easily made and perfectly tight; it does not expand or contract from different degrees of temperature, and is free from *CORROSION* or *CONCRETIONS* forming; does not impart any taste or injurious properties to water, and as far as anything can be said to be indestructible, we deem this to be.

As a GAS PIPE, we say it has no superior. The Lowell Gas Light Co., purchased and laid some of this Pipe last year, and have likewise subjected samples to a test of four month's duration in their dry lime purifiers, with the most satisfactory results, in fact establishing beyond a doubt, its perfect adaptation to the wants and requirements of Gas Companies, specimens of which, together with the statement of O. E. Cushing, Esq., Agent Lowell Gas Light Co., who made these experiments. I shall be pleased to show, and give all other needed information, by applying in person, or by letter, to JOHN L. WEBSTER, Treas.,

Boston Bituminized Pipe Co.,
No. 2 Pearl st. House, Boston.

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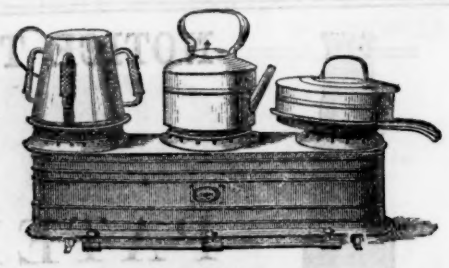


Cooking & Heating BY GAS.

CHEAPER THAN COAL OR WOOD.

The "EAGLE" Gas Heating STOVES,

Positively guaranteed free from Smoke or Smell.

Will Heat Offices, Parlors, Dining, Sleeping, and Bath Rooms. Also,

The EAGLE Gas Cooking STOVES & RANGES,

Will BOIL, BROIL, ROAST, BAKE, TOAST, STEW, and HEAT IRONS

The EAGLE GAS STOVES and RANGES have been in use for over Three years, and are found to be the most SIMPLE, COMPLETE and PERFECT Arrangment for HEATING and COOKING, in every respect ever invented, and to do the Work with LESS TROUBLE, in LESS TIME and at LESS EXPENSE than any Coal or Wood stove.

Their WONDERFUL NEATNESS, CONVENIENCE and ECONOMY can be seen at a glance.

WE ALSO MANUFACTURE

COAL OIL STOVES,

For Cooking and Heating.

The American Advertising agency 389 Broadway, N. Y. Bus. Dept., E. Alvord, cor. Dept., Fowler & Wells, receive orders for our stoves.

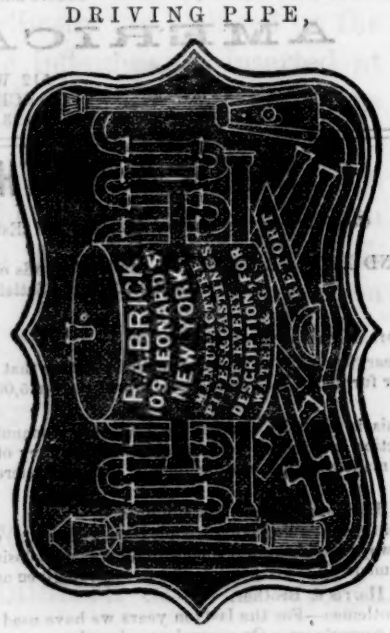
EAGLE GAS STOVE MANUFACTURING CO.

No. 474 BROADWAY, N. Y.

☞The Company have descriptive Catalogues, which will be sent or delivered, upon application for them.

DRIVING PIPE,

BERGEN IRON WORKS,



OFFICE 109 LEONARD STREET, NEW YORK.

AND BANDS COMPLETE.